BAILEY
TOURING CARAVANS

UNICORN

Alu-Tech Bodyshell

OWNERS MANUAL

www.baileyunicorn-s2.co.uk

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Model: _____

Vehicle Identification number V.I.N: _____
(Located on the exterior windows and chassis)

Owner's name: _____

Address: _____
_____
_____
_____
_____

Telephone number: _____

Habitation key number: _____

Retailer's name: _____

Retailer's address: _____
_____
_____
_____
_____

Telephone Number: _____

MTPLM: _____

Caravan Height: _____

Caravan Length: _____

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CONTENTS

Owner's Details

1. **INTRODUCTION** P 1
   - **Safety** P 1
   - **Driving Licences** P 2

2. **STATEMENT OF CONFORMITY** P 3

3. **WARRANTY** P 3
   - **Warranty Cover** P 3
   - **6 Year Bodyshell Guarantee** P 3
   - **3 year Manufacturer's Warranty** P 4
   - **Warranty Extensions** P 4
   - **Customer Support** P 4
   - **Terms & Conditions** P 4
   - **Warranty Registrations** P 6

4. **CARAVAN REGISTRATION & IDENTIFICATION SCHEME** P 6

5. **COUNTRY & COASTAL CODE** P 7
   - **Arrivals** P 7
   - **Vehicle movements** P 7
   - **Use of Site** P 7
   - **Cautions** P 7
   - **Noise** P 7
   - **Dogs and Pets** P 7
   - **Fire Precautions** P 7
   - **Awnings and Tents** P 7
   - **Departure** P 7
   - **Handbook** P 7
   - **Environment** P 7
   - **The Coastal Code** P 8
   - **Roof Loading** P 8
   - **Children** P 8
   - **Fire Extinguishers** P 8
   - **Ventilation and Condensation** P 9
   - **Petrol/Diesel Fumes** P 9
   - **Portable Appliances** P 9
   - **Modifications** P 9

6. **CARAVAN AND TOW VEHICLE** P 10
   - **Caravan and Towing Vehicle Terms** P 10
   - **Measurement of Nose Weight** P 10
   - **The caravan to towing vehicle weight ratio** P 11
   - **Towing vehicles Rear Suspension** P 11
   - **Recommended Towball Height** P 11
   - **Secondary Breaking cable (breakaway device)** P 11
   - **Loading and distribution of weight in the caravan and car** P 12
   - **Noseweight** P 13
   - **Hitching Up** P 13
     - Hitching the caravan P 14

7. **TOWING** P 15
   - **Speed Limits** P 15
   - **Pulling Away** P 15
   - **Caravan Handling** P 15
   - **Reversing** P 15
   - **Motorway Driving** P 15
   - **Mirrors** P 15
   - **Passengers** P 16
   - **Snaking** P 16
   - **Stabilisers** P 16
   - **Road Lighting** P 16

8. **UNHITCHING** P 17
   - **Levelling the caravan** P 17
   - **Towing Brackets** P 17

9. **WHEELS AND TYRES** P 18
   - **Tyres** P 18
   - **Tyre Wear and Damage** P 18
   - **Tyre Pressure** P 18
   - **Wheels** P 18
   - **Spare Wheels** P 19

10. **SPARE WHEEL CARRIER** P 19

11. **AL-KO CARAVAN CHASSIS** P 20
   - **Chassis Members** P 20
   - **Drilling or Welding of Parts or Accessories** P 20
   - **Independent Suspension** P 20
   - **Coupling Head** P 20
   - **Secondary Braking (breakaway cable)** P 20
   - **Uncoupling** P 20
   - **Brake Drum/ Hub Assembly** P 20
   - **Coupling** P 21
   - **Stabiliser Unit** P 21
   - **Uncoupling** P 21
   - **Manoeuvring Operation** P 22
   - **Noises Whilst Driving** P 22
   - **Remedial Action** P 22
   - **Storing** P 23
   - **Towing Ball** P 23
   - **Overrunning Device** P 23
   - **Jockey Wheel** P 23
   - **Brake Linkage** P 23
   - **Corner Steadies** P 23
   - **Braking System adjustment** P 23
   - **Chassis Lubrication Points** P 24

12. **ROAD LIGHTS** P 24

13. **TRACKER MONITOR** P 25
   - **Operating Instructions** P 25
     - To Arm P 25
     - To Disarm P 25
   - **Winter Storage** P 25
   - **Fault Finding** P 25

14. **THE WATER SYSTEM** P 27
   - **Priming the System Using the External Water Container** P 27
   - **Routine Maintenance** P 27
   - **Cleaning Containers & the System** P 27
   - **Aquasource Direct Mains Water System** P 27
   - **Setting up the water system** P 28
   - **Shower Tray** P 28
   - **Waste (Grey Water) System** P 28
   - **Water System Trouble Shooting** P 29

15. **THE GAS SYSTEM** P 30
   - **General Information** P 30
   - **Types of Gas** P 30
   - **Changing Gas Cylinders** P 31
   - **Gas Safety Advice** P 31
   - **Awning Space LPG Appliance Exhaust** P 31
   - **Gas Leaks** P 31
   - **Ventilation** P 31
   - **Gas BBQ Point** P 31

16. **THE ELECTRICAL SYSTEM-230V** P 32
   - **On Arrival at Caravan Site** P 32
   - **On leaving Caravan Site** P 32
   - **Generators** P 32
   - **Overseas Connection** P 32
   - **Mains Unit** P 32

17. **THE ELECTRICAL SYSTEM – 12v P 33**
- **Auxilary Battery Storage/ mains inlet P 33**

18. **THE DIGITAL CONTROL PANEL P 35**

19. **ALDE HEATING SYSTEM P 37**
- **Operating Instructions P 37**
- **Boiler Design P 37**
- **Description of Functions P 37**
  - Using LPG P 37
  - Using the Heater Cartridge P 37
- **The Domestic Hot Water Heater P 37**
- **The Heating Cartridges P 38**
- **The Circulation Pump P 38**
- **System Temperature P 38**
- **Air Circulation P 38**
- **Maintaining the Heating System P 38**
  - Winter Camping P 38
  - The LPG System P 38
  - The Heating System P 38
- **Filling the System with Glycol Fluid P 38**
- **Bleeding the system P 38**
  - Bleeding P 38
- **Troubleshooting P 39**
  - The Boiler does not start P 39
  - Control panel functions & symbols P 40
  - Electrical operations (230v) P 48
  - General Safety Notes P 48

20. **GRP PANELS P 48**

21. **ROOFLIGHTS P 49**
- **Heki Rooflights P 49**
  - Operation P 49
    - Opening in the Tilt Setting P 49
    - Opening in the Intermediate setting P 49
    - Opening in the Permanent Ventilation setting P 49
    - Closing the Blind P 50
    - Safety Instructions P 50
    - Care Instructions P 50
- **MPK Rooflights P 50**

22. **CAPRICE COOKER P 51**
- **Operation P 51**
  - Using the Hotplate Burners P 51
  - Using the Electric Hotplate P 51
  - Using the Grill P 52
  - Using the Oven P 52
    - Temperature Control P 53
    - Cooking Guidelines P 53
  - Maintenance P 53
  - Service P 54

23. **DAEWOO MICROWAVE P 55**
- **Operation P 55**
- **Wattage Output P 56**
- **Controls P 56**
- **Specifications P 57**
- **Service P 57**
- **Troubleshotting P 57**

24. **REFRIGERATORS P 59**
- **Winter Operation P 59**
- **Dometic Refrigerator Model 59RM8550/ RMS8550 P 59**
  - **Cleaning P 59**
  - **Operating Modes & use of the Refrigerator P 59**
    - Control elements of energy selection P 59
    - Electrical Operation P 59
    - Gas Operation P 59
    - Battery Ignitor P 60
    - Door Lock P 60
    - Removable Freezer Compartment P 60
- **Dometic Refrigerator Model RMD8501 P 61**
  - **Cleaning P 61**
  - **Operating modes & use of the refrigerator P 61**
    - Maintenance P 61
    - Explanation of Operating Controls P 61
    - Electrical Operation P 61
    - Gas Operation P 62
    - Shutting off the Refrigerator P 64
    - Defrosting P 64
    - Winter Operation P 64
  - Display P 64
- **Troubleshooting P 65**
- **Maintenance P 65**

25. **STAINLESS STEEL KITCHEN SINK P 66**

26. **SMOKE ALARM P 66**
- **Features P 66**
- **Maintenance P 66**

27. **CARBON MONOXIDE ALARM P 67**
- **Features P 67**
- **Understanding your Product's Indicators P 67**
- **Maintaining/ Testing your Detector P 67**
- **What to do in the Event of an Alarm P 68**

28. **BATHROOM CARE P 69**
- **Bathroom Shower Tap P 69**
- **Mirrors P 69**

29. **THETFORD TOILET C262 CWE TOILET P 69**
- **Introduction P 69**
- **Preparing for Use P 70**
- **Using the Toilet P 70**
- **Emptying P 70**
- **Cleaning and Maintenance P 70**
- **Toilet Bowl P 71**
- **Waste Holding Tank P 71**
- **Winter Operation P 71**

30. **ECO CAMEL SHOWER HEAD P 72**

31. **SOFT FURNISHINGS P 73**
- **Carpet P 73**
- **Upholstery P 73**
  - Cleaning and Care P 73
  - Winterisation & Storage P 73
- **Curtains P 73**

32. **BLINDS P 74**

33. **STATUS 550 AERIAL P 74**

34. **GENERAL CARE & MAINTENANCE OF YOUR CARAVAN P 76**
- **Exterior P 76**
  - Cleaning/ Usage Information P 76
- **Acrylic Windows P 76**
  - Window catches and Stays P 76
- **Furniture P 77**
  - Humidity P 77
  - Condensation P 77
  - How to keep your caravan dry & avoid condensation P 77

35. **HINGES AND CATCHES** **P** **77**

36. **CARAVAN KEYS** **P** **77**

37. **WINTERISATION AND STORAGE** **P** **78**

38. **MODIFICATIONS AND DIY WORK** **P** **78**

39. **SPARES AND AFTERSALES** **P** **78**

40. **FRONT BUNK ASSEMBLY** **P** **79**

41. **SIDE DINETTE TOP BUNK ASSEMBLY** **80**

42. **SIDE DINETTE BOTTOM BUNK ASSEMBLY** **P** **81**

43. **USEFUL TELEPHONE NUMBERS AND E MAIL ADDRESSES** **P** **82**

1. INTRODUCTION

Welcome,
Congratulations on the purchase of your Bailey Caravan. We would like to welcome you into the ranks of Bailey Owners. We are confident that this vehicle will give you many years of enjoyment.

This handbook has been designed to enable you to derive the maximum benefits and pleasure from your caravan, its information and hints will be beneficial and help to protect your investment whether you are a new or experienced caravan owner.

Information leaflets and literature on safe operation of appliances and equipment fitted to your caravan are included in the Bailey Information pack. Please read these carefully prior to use.

Failure to observe recommendations or precautions could result in incorrect operation of equipment which could in turn lead to subsequent risk to occupants.

Regular maintenance is necessary to ensure trouble free service from your caravan. Your Bailey Retailer is equipped to offer service facilities, repair work and any spare parts that you may require.
Always consult your supplying retailer before additional equipment is fitted to ensure the location of appropriate structural support.

Retailers are not agents of Bailey and have absolutely no authority to bind Bailey by any express or implied undertaking or representation.

Happy Touring!

Note

To enable Bailey and our Retailer partners to deal with your queries efficiently, always quote your Caravan's Vehicle identification number V.I.N which can be found on the offside chassis member and is etched onto all major windows.

It is the Bailey policy to constantly improve their vehicles, so whilst all illustrations and descriptive matter in this handbook are intended to give a general idea of the caravan and are correct at the time of going to press, changing market and supply situations may prevent us from maintaining the exact specification details of this handbook. Bailey therefore reserve the right to alter the specification at any time without prior notice.
Bailey offer a variety of customer uses and whilst each vehicle is designed to feature the optimum storage, seating, sleeping and fluid capacities, it is the customer's responsibility to select the correct loads without exceeding the weight capabilities of your chosen towing vehicle. These weights can be found on the weight plate located outside your vehicle next to the exterior door and on the Approval Label inside the gas locker.

Safety
This handbook contains the information that you will require for your safe enjoyment of your caravan. All the information contained herein is important. However, to draw your attention to specific items we have prefixed them with the following symbols to indicate a warning, caution or note respectively.

WARNINGS are items that if ignored can cause the user(s) physical harm

Cautions are items that if ignored can result in damage to the caravan

Notes are reminders that should be heeded.

IMPORTANT SAFETY NOTES

To ensure all the occupants of your caravan enjoy a safe and relaxed environment please observe the following.

- Ensure all the occupants are aware of their escape routes in the event of a fire.
- Always keep escape routes and exit points clear from obstruction and debris.
- Provide one dry powder fire extinguisher of an approved type or complying with ISO 7465 of at least 1kg capacity by the main door, and a fire blanket next to the cooker. Familiarise yourself on your fire extinguisher and the local fire precaution arrangements
- Your tourer is a compact living environment, and appliances should be treated in the same way as those in the home to prevent any accidental burning or scalding- keep young children away from hot surfaces.
- Your tourer is supplied with a EN1645 approved caravan step. Always take care when entering or exiting your tourer, ensuring that the step is securely located and safe before use. Do not use a damaged or broken step.
- The torque setting of the caravan's wheel bolts should be checked after the first 30 miles after collection of the caravan from the retailer. Thereafter, wheel bolts should be checked before every journey. The torque settings and tightening sequence are detailed on page 13 of

this handbook.

- Never attempt to lift the tow hitch with your hands when hitching the caravan to the tow vehicle or at any other time. Always raise or lower the tow hitch by winding the handle on the jockey wheel.
- Always ensure that the green button located on the leading edge of the coupling head is raised before towing.

Driving Licences

A driver passing a test after 1 January 1997 is restricted to a car/caravan combination not exceeding 3500Kg maximum laden weight, and where the maximum loaded weight of the caravan does not exceed the unladen weight of the car. New drivers outside these rules will need to take an additional driving test. Existing drivers who passed a test before 1 January 1997 are not affected.

2. STATEMENT OF CONFORMITY

All Bailey Caravans have been certified by the National Caravan Council for compliance with UK and European Standards and Legislation along with industry Codes of Practice relating to health and safety issues. The approval process covers the testing and inspection of critical areas of the product from fire safety, weights and dimensions, to gas, electrics and ventilation. Every Bailey Caravan carries the "NCC Approved Caravan" badge. The NCC conducts unannounced inspections at their members' factories to ensure continued compliance.
NCC Approval gives you peace of mind that your Caravan is legal and safe.

Your Bailey Caravan is European Whole Vehicle Type Approved.
This assures you that your Caravan meets all European regulations and has been constructed to conform to these rigorous standards for both manufacturing and product safety. This allows you to register your vehicle in another European country. Your certificate of conformity is in the document pack provided with your vehicle.

3. WARRANTY

If you have a problem, or enquiry relating to your caravan please follow these steps:

- Check the handbooks.
- Contact your supplying retailer for assistance.
- The following suppliers provide a direct aftersales service please contact them directly:

AL-KO
Al-KO Kober Limited
South Warwickshire Business Park
Kineton Road
Southam
Warwickshire
CV47 0AL
Fax: 01926 818562
E Mail: mail@al-ko.co.uk

DOMETIC
Dometic UK Ltd
Dometic House
The Brewery
Blandford St Mary
Dorset
DT11 9LS
Telephone: 0844 626 0130
email: technical@dometic.co.uk

It is with the retailer that the purchaser's Contract of Sale exists and consequently Bailey Caravans cannot enter into any discussions with the purchaser.

All Bailey products are classified as "portable". All work under warranty required that the caravan be delivered to and collected from the Bailey retailer.

Whilst every effort is made within this handbook to accurately reflect and describe our home market caravans (those purchased and stored on the mainland) our policy of continued improvements and change in market and supply conditions mean that we reserve the right to alter specification without further notice. Some materials used in the production of our motorhomes can result in variations to the figures quoted in respect of measurements and weights.

Unicorn Warranty Cover
Total customer satisfaction is top priority at Bailey and the quality ethos extends to the after sales service and market leading manufacturer's warranty package that comes with every new Bailey Unicorn caravan. In this way we not only ensure long-term peace of mind but also enhance the resale value of your investment.

6 Year Body Shell Integrity Guarantee
The Bailey Alu-Tech Unicorn caravan is covered by a six (6) year Bodyshell Integrity Guarantee from the initial date of purchase. This cover extends to any structural degradation to the bodyshell that arises as a result of water ingress through any permanently sealed seams or joints (with the exception of exclusions stated in the terms and conditions.)

Warranty Extension
An additional four (4) year extension to the standard Bodyshell Integrity Warranty cover (making 10 years cover in total) is available as a cost option. Please ask your supplying Bailey Retailer for more information.

3 Year Manufacturer's Warranty
For a period of twenty-four (24) months from the initial date of purchase Bailey of Bristol offer a comprehensive warranty on all parts and components as well as full coverage for any manufacturing faults forming part of the original specification of the vehicle. The manufacturer's warranty then extends to an additional twelve (12) months on the following items
Chassis: all chassis members including corner steadies
Suspension: axle suspension and braking system (excluding any damage to or faults in brake drums and shoes that are caused through misuse of the braking system or from normal wear and tear)
Running Gear: road wheels (excluding tyres)
Towing Mechanism: all mechanical components fitted to vehicle (excluding electrics)
Cooker: the cooker unit including burners, grill, oven, hot plate, flame failure device and igniter
Refrigerator: door seal condenser, gas control valve, gas igniter, flame failure device, 230v heater elements, gas thermostat, thermostat and temperature control switch
Water System: water heater (gas or electric), fresh water tank, water pump, water gauges, taps and shower head
Electrical System: mains hook up input connector, ELCB, and interior lighting units (excluding bulbs and LED's)
Cassette Toilet: the cassette toilet is covered (excluding seals, valves and glands)
Heating System: thermostat, motor, switches, control unit, gas heater, flame failure device and igniter (excluding ducting and fittings)
Windows: the functionality of the opening and closing system (stays, handles and catches).
Upholstery: zips, seams and colour fastness

Warranty Extension
An additional three (3) year extension to the standard Manufacturer's Warranty cover for mechanical and electrical components of a leisure vehicle both external and internal (making 6 years cover in total) is available as a cost option. Please ask your supplying Bailey Retailer for more information.

Customer Support
In the unusual event of something going wrong your first contact should always be your supplying retailer. Approved Bailey Retailers enjoy industry-leading after sales support service from the manufacturer and they should be able to offer all the help you need to rectify any problems that may exist.

Terms and Conditions
The Bailey Warranty Cover set out above is offered subject to the following simple terms and conditions:

Cover
1. During the term of the Warranty Cover, subject to these terms and conditions, Bailey will, through an Authorised Service Centre, at its option repair or replace all parts and components of the Unicorn caravan that are included in the Warranty Cover and which suffer a defect in manufacture or workmanship. An Authorised Service Centre means either Bailey itself, a Bailey Approved Retailer or a Bailey Approved Service Centre. Any part which is replaced becomes the property of Bailey. Any replacement parts are covered for the unexpired term of the Warranty Cover.

Term
2. The initial duration of the Bodyshell Integrity Guarantee is six (6) years and the duration of the Manufacturer's Warranty is three (3) years in both cases starting from the original purchase date of the vehicle. It is a condition of the warranty that an annual service is performed on the vehicle in accordance with the service plan. Failure to comply with this term will invalidate the warranty.
3. The unexpired term of the Warranty Cover on your vehicle may only be assigned, transferred or novated to subsequent owners with Bailey's consent (not to be unreasonably withheld) and on payment to Bailey of a transfer fee of £35. Transfer can only be made within the first three months (3) of subsequent ownership and full documentary evidence that the vehicle has been serviced annually must be provided at the time of assignment in accordance with the terms and conditions detailed above.

Repairs
4. The Unicorn caravan must undergo a full annual service and inspection, including a moisture survey, carried out, subject to paragraph 5 below, by an Authorised Service Centre. The final annual service in the warranty period must be carried out before the end of that warranty period, but all other annual services may be carried out within six (6) weeks either side of each anniversary of

the original purchase date. The original VAT invoices must be retained as proof that these annual inspections have been carried out.
5. During the first three (3) years of the Warranty Cover, all annual inspections and repairs must be carried out either by Bailey itself or an approved Bailey Service Centre or Agent. Thereafter, due to the technical nature of an Alu-Tech constructed caravan, annual inspections and repairs may be carried out by any workshop or repair centre approved by the National Caravan Council that has attended Alu-Tech training courses at the Bailey factory.
6. Where an annual inspection identifies that repairs to the vehicle are necessary, the Unicorn caravan must be made available for repair within six (6) weeks of the date of inspection for the purpose of carrying out the repair work.
7. No repairs, including the fitting of any replacement unit, may be undertaken or commenced under the terms of the Warranty Cover unless prior written authorisation is obtained from Bailey via an authorised Bailey Retailer or Service Centre. No liability will exist with regard to any warranty claims not authorised in this way.
8. Bailey reserve the right to examine the vehicle before any repairs commence or any replacement part is fitted.

Registration & Use
9. The Warranty Registration Form must have been sent to Bailey within six (6) weeks of the original purchase date. It is the responsibility of the Bailey Retailer to forward this information to Bailey. This is part of the terms of trading that that the Bailey Retailer has with Bailey.
10. The Unicorn caravan shall:
(a) only be used for its ordinary and intended purpose and shall not be subjected to any treatment or conditions which could reasonably be foreseen to cause or result in damage to the vehicle or excessive wear and tear;
(b) only be towed by a private car or private 4 x 4 vehicle; and

(c) not be put out to hire, reward or any other commercial use, nor used in any race, competitions or rallies whether timed, official or otherwise.

Exclusions & Liability
11. Bailey's liability under this warranty shall be limited to supplying the reasonable costs of labour and materials required for the repair or replacement of faulty parts or components. Bailey shall be entitled to charge for any repair work which is necessitated by virtue of any loss or damage caused by your negligence or default or incurred as a result of any modifications you have made to the vehicle. This warranty does not cover repair costs other than labour and materials.
12. The Warranty Cover does not include:
(a) repair or replacement of parts, components, seams or panels which are not part of the original construction of the Unicorn caravan, or which have been tampered with or undergone unauthorised modifications, or which have been repaired otherwise than by an Authorised Service Centre;
(b) parts or components other than those specifically listed in the Bodyshell Integrity Guarantee and Manufacturer's Warranty descriptions set out above;
(c) general maintenance or components failing due to fair wear and tear or normal deterioration;
(d) repairs necessitated by lack of routine or regular maintenance. Particular attention is drawn to the Owner's Manual and Service Handbook supplied with the caravan and any maintenance instructions or notices published from time to time by Bailey relating to the proper care and maintenance of vehicles; or
(e) structural degradation or other damage caused by water ingress through non-permanently sealed seams or joints (such as, without limitation, around windows, hatches, doors and rooflights), beyond the initial 24 months of the Manufacturer's Warranty.
13. No liability will be accepted for:
(a) damage caused by neglect or abuse, corrosion, intrusion of foreign or deleterious substances, lack of servicing, over-heating, freezing, or the continued use of the vehicle after a fault has become evident;
(b) any loss or damage caused by parts not covered by this Warranty Cover, including soft furnishings or trim;
(c) any accidental or fire damage or any losses incurred by accident or fire; or
(d) transport costs to and from point of repair.

14. Bailey will only be liable for costs which are incurred as a direct consequence of the event, defect or fault leading to the claim being made under this warranty. No liability will be accepted for any other loss or damage (such as loss of income or revenue, or loss of business or profits), costs, expenses or other claims for compensation howsoever arising which was not reasonably foreseeable by both parties when the caravan was originally purchased. Bailey will not be liable for any loss or damage suffered by third parties, nor for bodily injury not caused by our negligence.
15. Nothing in this warranty shall limit in any way our liability: for death or personal injury caused by our negligence; for fraud or fraudulent misrepresentation; or for any matter for which it would be illegal for us to exclude, or attempt to exclude, our liability.
16. The purchaser has statutory rights in addition to this warranty and this warranty does not affect those statutory rights.
17. This warranty shall be governed by and con-

strued in accordance with the laws of England and the parties irrevocably submit to the non-exclusive jurisdiction of the courts of England.

The name and address of the warranty and guarantee provider is:
Bailey Caravans Limited, South Liberty Lane, Bristol, BS3 2SS

Warranty Registration
The supplying retailer must explain the warranty terms and conditions to you, and complete the warranty registration process on-line. Your warranty will start on the day that the vehicle is first registered in the UK or 12 months from the date of which the vehicle was invoiced to the supplying retailer whichever is the earlier.

4. Caravan Registration and Identification Scheme (C.R.I.S)

This caravan has been security marked and recorded under the Caravan Registration and Identification Scheme that is organised by the Caravan Industry. Shortly after purchasing this caravan you should receive your Touring Caravan Registration Document. It will be sent to you by post to your home address.
Your Touring Caravan Registration document will include a 17 digit character V.I.N (Vehicle Identification Number), shown in the top right hand corner. This 17 digit character V.I.N will be die stamped into the caravan drawbar and chemically etched on up to a maximum of 10 eye level windows.
To Protect yourself and your touring caravan, never leave the Registration Document in the caravan. For security reasons keep it in a safe place.
If you sell the caravan please follow the instructions on the Touring Caravan Registration Document.
If you do not receive a Touring Caravan Registration Document, lose it, or any of the details recorded are incorrect, please contact:

CRIS
Dolphin House,
New Street,
Salisbury,
Wiltchire,
SP1 2TB
Tel: 01722 411430

5. COUNTRY AND COASTAL CODE

Upon arrival at your destination you should be aware of the Country Code.

Code of Conduct – Camp sites
Check the site regulations

Arrivals
Report to reception immediately on arrival

Vehicle Movement
Keep to roadways unless otherwise directed
Adhere to speed limits. Note that these are generally 10 mph whilst on site. (Remember that the stopping distance on grass is considerably greater than on tarmac.)
Only a person in possession of a current driving licence may drive on site.
Park as advised on your pitch. Where possible leave 6 meters (20ft) of free space around your vehicle.

Use of Site:
Use the electrical mains hook-up in the correct manner and with caution.
Ensure that all fresh water taps/ connections are turned off after use.
Have care and consideration when using all facilities (toilets and showers etc) and leave them clean and tidy. Young children should be escorted.

Cautions
To avoid possible damage to sewage purification works, only approved chemical fluids must be used. Under no circumstances may coal tar, phenol or caustic based fluids be used. Disposable napkins and similar bulky items must not be put into the chemical closet emptying points but should be wrapped in a polythene bag and placed in the container provided. (Put all litter in containers marked for the purpose.)

Noise
Do not make excessive noise.
Children should be restrained from making excessive noise.
Flying kites and model aircraft and the use of items like catapults or air guns as well as ball games should not be permitted among, or close to caravans.
Musical instruments, music players, radios and televisions should not be used to the inconvenience of other people on site
Open and close doors quietly
Power generators must be adequately silenced and used with consideration and according to restricted site times

Dogs and Pets
All dogs and other pets should be kept under control
Unless permission has been granted, no animal should be let loose on the site and leads should not exceed 3 meters (10 ft)
No animal should be allowed in the shower/ toilet block.
Do not let animals foul the site.

Fire Precautions
Adhere to and make note of all fire precautions including the whereabouts of the fire points.

It is recommended that a 1 Kg (2lb) dry powder fire extinguisher is carried. It should comply with BS 5423 and be marked BSI or FOC approved. It is important to check at regular intervals that the extinguisher is working as is required by types meeting BS 5423. Make sure that he use by date is frequently checked.

Careful thought is necessary for the positioning of a fire extinguisher, which should be near to the door but not too close to the cooking equipment where sudden flames could make it unreachable. In the kitchen area, a fire blanket is a worthwhile precaution.

Unless permission has been granted barbeques should not be used. When permission has been given, consideration should be given to the annoyance that can be caused to other users of the site. Open Fires are not allowed.

Awnings and tents
Awnings and tents should only be used when permission has been granted.
When on grass and staying for more than a few days, the ground sheet and/or side flaps of awnings should be periodically raised in order to avoid damage to the ground.

Departure:
Leave the pitch clean and tidy
On leaving check out with reception paying the required dues.

On no account should:
Litter be disposed other than in the receptacles provided.
Water be allowed to escape from the vehicle
Chemical toilets be emptied except into the disposal places agreed with the landowner
Washing or similar to be hung outside of the vehicle.

Handbook
Before using the Caravan, all aspects of the handbooks should be read and adhered to.

Environment
Care and consideration should be taken to protect

the environment.

Observe the Country and Coastal Codes shown below.

The Country Code
Enjoy the countryside but respect its life and work. More people than ever before are exploring the countryside, interested in farming, plant life, bird watching or just observing the general wildlife. Whatever your interest, there is a lot to learn, but please observe the following code.
Guard against all risk of fires. Hay and heath land catch alight easily and once ablaze are very hard to put out. Remember Fire spreads quickly.
Keep to the public paths across farmland.
Use gates and stiles to cross fences, hedges and walls.

Leave livestock, crops and machinery alone. View from a distance.

Take your litter home; - it is unsightly and harmful to wildlife.

Help to keep all water clean.

Take special care of country roads

Make no unnecessary noise. Most Animals are timid; noises can disturb them unnecessarily. If you want to get the best out of the countryside, travel around as quiet as possible.

The Coastal Code
As our coastlines are increasingly used for recreation and education, the following suggestions are made to enable us to enjoy our inheritance and preserve it for posterity.
Do not trample about, or move rocks unnecessarily.
Do not frighten seals or sea birds.
Do not spear fish
Do not spill detergents, solvents or fuel from boats as these can kill marine life.
When using a boat, moderate your speed- the wash from a fast boat can destroy both banks and nests.
Live molluscs and crustaceans need not be collected as souvenirs – dead shells can usually be found.
Shellfish can take years to grow and fines can be imposed for not observing national regulations.
Do not pull up seaweed unnecessarily.
Make your visit instructive not destructive.
Look at material, don't remove it. Take notes and photographs, not specimens.
Observe bye-laws and be considerate to others.
National Trust property or Country Parks have regulations to protect the wildlife. Follow these.

Roof Loading:

Do not allow children to climb on the roof of your caravan.

Special care when on the roof particularly in wet or frosty weather conditions, as the surface could be slippery. Always wear practical footwear when climbing onto your vehicle.
Maximum load within the area encompassed by the roof rack should not exceed 75 Kgs (165 lbs) with a maximum loading of 24 Kg per meter2 (8 Kg (17 lbs) per square foot.)

Safety and Security

Your attention is drawn to the notice fixed in your Caravan advising on fire protection, ventilation and what to do in case of fire.

Children,
Never leave children alone in the Caravan and keep potentially dangerous items out of reach as at home e.g. matches drugs etc.

When upper bunks are used by children, especially those under the age of six, care should be taken to ensure against the risk of them falling out. These bunks are not suitable for the use of infants without adult supervision.

Fire Extinguishers
It is recommended that a 1 Kg (2.2lb) minimum capacity dry powder fire extinguisher be located near to the main habitation entrance door.

A pan fire 'should' not have a fire extinguisher aimed at it but be smothered with a fire blanket. This should be within easy reach of the hob but away from the source of flames.

In Case of Fire
- Get everyone out of the caravan as quickly as possible using whichever exit is quickest including windows.
- Raise the alarm – Call the fire brigade (In the UK dial 999)
- Turn off the gas container valve if safe to do so.

Your caravan is fitted with a smoke alarm. The

operation of the alarm should be tested after the vehicle has been in storage, before each trip and at least once per week during use.

Ventilation and Condensation

The ventilation points on your Caravan are fixed points of ventilation which are specified by European Standards. Under no circumstances must these be blocked or obstructed. It is advised that fixed ventilation points and any protective screens are checked and cleaned (if necessary) on a regular basis.

Fresh air circulation should be allowed below the Caravan when appliances are in use and when flues terminate below the floor to allow free evacuation of the products of combustion. At least three sides of the under-floor space should be kept clear and unobstructed including by snow. Do not make any additional openings in the floor.

Additional night time ventilation is obtained by releasing the window catches and placing them in the second groove on the frame catch.

Under no circumstances should the caravan ventilation be covered, blocked or tampered with in any way.

The fitting of a tail pipe deflector to your exhaust will reduce the possibility of fumes entering your caravan through the front fixed ventilation points. However, an extension fitted to an exhaust tail pipe will be illegal if it projects beyond the vehicle body or bumper.

Original Equipment Appliances

See sections devoted to individual appliance.

Replacement parts for any appliance shall conform to the appliance manufacturer's specification; and should be fitted by them or an authorised agent.

Portable Appliances

Never use portable cooking or heating equipment, other than electrical heaters that are not of the direct radiant type, as it is a fire and asphyxiation hazard.

Modifications

Never allow modification of electrical or LPG systems and appliances except by qualified persons.

6. CARAVAN AND TOW VEHICLE.

Choosing the right car and caravan combination for safe and stable towing is both an art and a science. It may seem complicated to the newcomer, but a few minutes spent understanding the basic principles, common terms and definitions in use will be worthwhile in ensuring your enjoyment of the caravan.

Caravan and Towing Vehicle Terms
Maximum Technically permissible laden mass: As stated by the vehicle manufacturer. This mass takes into account specific operating conditions including factors such as the strength of materials, loading capacity of the tyres etc. It is the maximum that the caravan can weigh on the road.

Under no circumstances should the maximum technically permissible laden mass of the caravan be exceeded.

Mass in Running order: Mass of the caravan equipped to the manufacturer's standard specification and certain items of essential habitation equipment.

User Payload: The difference between the maximum technically permissible laden mass and the mass in running order.

The user payload includes:
Personal effects: Those items which a user can choose to carry in a caravan and certain items of habitation equipment which are not included in the Mass in Running Order or Optional Equipment.

Personal effects will include the wheel lock, jack and television if supplied as standard with the caravan.

Optional equipment: Items made available by the manufacturer over and above the standard specification for the caravan.

The masses relevant to your model of caravan can be found at the back of this book.

Please take care to ensure that you have allowed for the masses of all items you intend to carry in the caravan. E.G. optional equipment, essential habitation equipment and personal effects such as clothing, food, sports equipment etc. The actual laden mass of the caravan as towed should thus not exceed the maximum technically permissible laden mass. The actual laden mass can be measured on a public weighbridge.

Please note: Weighbridges although regularly checked can give varying (inaccurate) results.

Nose Weight: The weight of the part of the caravan that is supported by the rear of the towing vehicle. This is sometimes defined as the "static load at the coupling head." The maximum nose weight for a caravan will be limited by either the towing vehicle tow hitch limits or the maximum load to which the caravan hitch is specified.

The towing vehicle and towing hitch handbooks/manufacturers must be consulted for their specification prior to towing.

The maximum static nose weight for all Bailey Caravans is 100Kg. This should never be exceeded regardless of whether the towing vehicle's upper limit is greater.

It is recommended that the nose weight should be varied to find the optimum for towing dependent upon the actual laden weight of the caravan. Experience has shown that the nose weight should be approximately 7% of the actual laden weight (i.e. between 50 and 100Kg).

Measurement of the nose weight
Nose weight may be measured using a proprietary brand of nose weight indicator. Such equipment is obtainable from your Bailey Dealer.

Another simple method is to use bathroom scales and a suitable piece of strong timber as a platform to rest the tow hitch on. The timber can be placed vertically between the caravan tow hitch and the bathroom scales. The timber should be of such a length that when the caravan tow hitch is lowered onto it, using the jockey wheel, the caravan floor is horizontal. The weight can then be measured. When taking the measurement the jockey wheel should be raised and the corner steadies lowered until they are just clear of the ground.

Kerb weight: The weight of the towing vehicle as defined by the vehicle manufacturer.

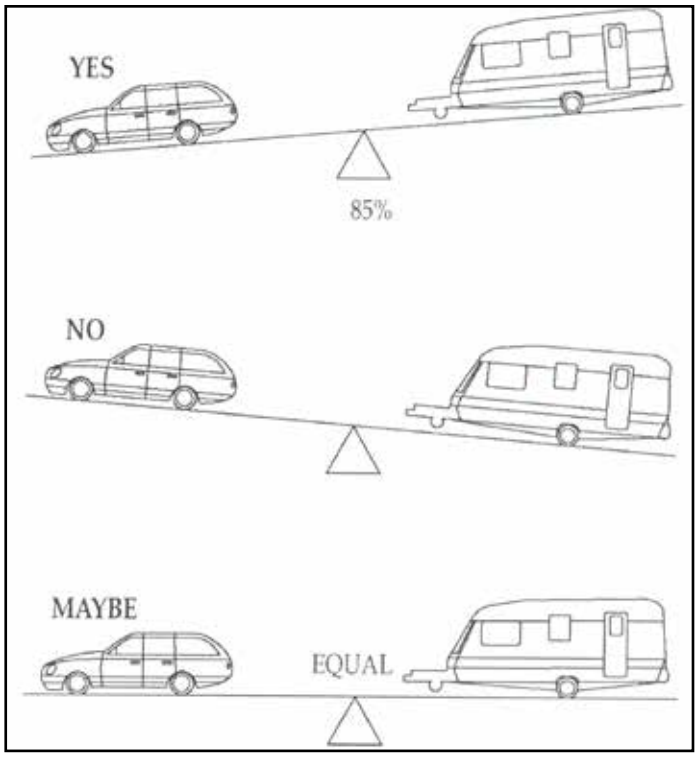
This is normally:
- With a full tank of fuel
- With an adequate supply of other liquids incidental to the vehicles propulsion
- Without any drivers or passengers
- Without any load except loose tools and equipment with which the vehicle is normally provided.
- Without any towing bracket.

The caravan to towing vehicle weight ratio:
This can be determined by calculation and is equal to:

Actual laden mass of caravan

——————————— **100%**

Kerb Weight of Towing vehicle



As a general guide:

- Conventional petrol engines with a capacity up to approximately 1600cc petrol or 1800cc diesel should be adequate for towing a caravan weighing around 85% of the kerb weight of the towing vehicle.
- Above 1600cc petrol or 1800cc diesel such engines should manage a caravan weighing up to 100% of the kerb weight of the towing vehicle and still give adequate performance.

The towing vehicle manufacturer's towing limit is, in some cases, less than the kerb weight.
Vehicles with automatic transmission may need an oil cooler fitted or the SAE rating of the gearbox fluid increasing when towing. The advice of the vehicle manufacturer should be sought.

The law requires that caravans, their towing vehicles and the loads they carry must be in such a condition that no danger or nuisance is caused. (Regulation 100 of the Road Vehicles [Construction and Use] Regulations 1986.)

Towing Vehicles Rear Suspension
It is important that the towing vehicle's rear suspension is not deflected excessively by the noseweight on the towball. If it is excessive the steering and stability will be affected and at night the headlight beam is likely to dazzle other drivers which is illegal.

The greater the towing vehicle's tail overhang (the distance between the rear axle and the towball) the greater the effect the noseweight will have on the towing vehicle's rear suspension.

After trying out the caravan it may be found that stiffening of the rear suspension is necessary- but note that this may give the towing vehicle a firmer ride when not towing.

There are a number of suspension aids available and advice should be sought on which to use and how to fit.

It is important to ensure that the caravan is towed either level or slightly nose down. If it is not, then the car's towbar may be at the wrong height.

Always consult your tow vehicle manufacturer for advice on towing and the loads that the vehicle is capable of towing.

Recommended Towball Height
The recommended towball height for Bailey Caravans is 385 +/- 35mm (350mm to 420mm)

Secondary Braking Cable (breakaway device)
Purpose- To apply a trailer's brakes if it becomes separated from its towing vehicle. Having done this, the cable assembly is designed to part, allowing the trailer to come to a halt away from the towing vehicle.
Construction- A thin steel cable, coated in red plastic and fitted with a means of attachment for connection to the towing vehicle.
Operation- In the event of the main coupling of the trailer separating from the towing vehicle, the cable should be able to pull tight, without any hindrance, engaging the trailer's brakes.

The Breakaway cable should never become taut during normal use.

Correct Procedure For Use

- Regularly check the cable and clip for damage. If in doubt, contact your trailer or towbar supplier or your service agent.
- Make sure the cable runs as straight as possible and goes through a cable guide underneath the trailer coupling.
- Determine whether or not the towbar has a designated attachment point (i.e. a part specifically designated by its manufacturer for a breakaway cable.)

Where a designated attachment point is provided on the towbar:

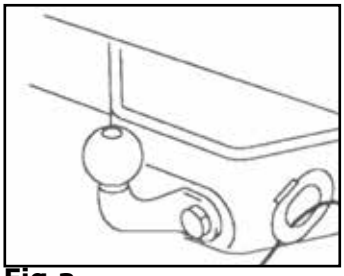


Fig a.

Pass the cable through the attachment point and clip it back on itself. (fig a)

Where no designated attachment point has been provided on the tow bar:

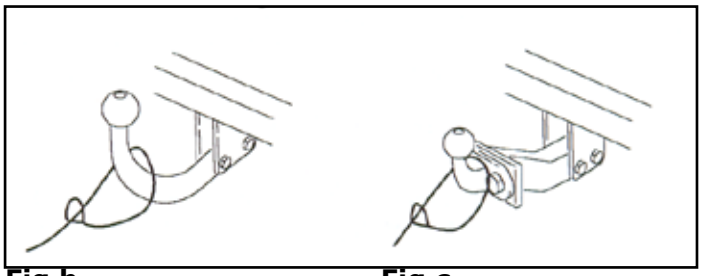


Fig b. **Fig c.**

Fixed ball- Loop the cable around the neck of the tow ball. If you fit the cable like this, use a single loop only. See Figs. b and c.
Detachable ball- You must seek guidance on procedure from the tow bar manufacturer or supplier.

Other means of detachment:
In some instances it may be possible to attach the cable assembly:
Either:
To a permanent part of the tow bar structure, as long as this meets the approval of the tow bar manufacturer/supplier,
Or:
To an accessory sold for the specific purpose of breakaway cable attachment.

When the breakaway cable is attached, check to ensure:

a) That the cable cannot snag in use on the Caravan coupling head, jockey wheel, or any accessory, e.g. a stabiliser, bump shield, cycle carrier, etc.

b) That there is sufficient slack in the cable to allow the towing vehicle and Caravan to articulate fully without the cable ever becoming taut and applying the brakes.

For peace of mind you might wish to check the state of the cable by positioning the caravan and towing vehicle at extreme angles before setting off.

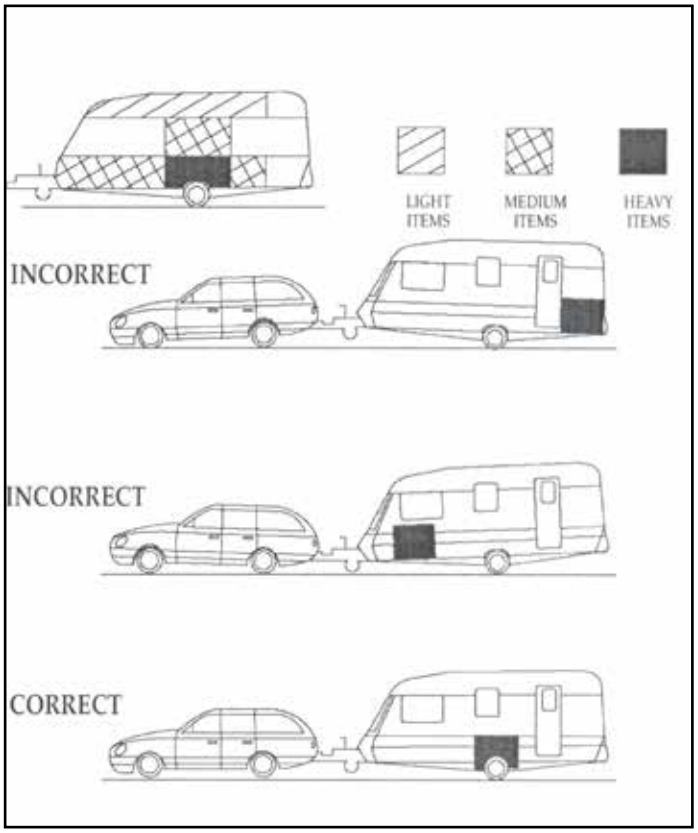
c) That it is not slack that it can drag on the ground. If left loose, the cable may scrape along the ground and be weakened so that it subsequently fails to do its job. The cable may also be caught on an obstacle when in motion thus engaging the caravan's brakes prematurely.

Having followed this advice, should you feel that a satisfactory coupling arrangement cannot be achieved, consult your trailer or towbar supplier or service agent.

It is a legal requirement that the secondary breakaway cable is used when towing

Loading and Distribution of weight in the caravan and car.
Equipment and personal effects should be loaded in the caravan so that any heavy items are low down near the floor and mainly over the axles.

The remainder should be distributed to give a suitable noseweight at the towing coupling.



It should be noted that with certain layouts or models it may be necessary to load heavy items, such as awnings in the middle of the floor to achieve an acceptable and safe nose weight. It may not be possible to achieve the desired nose weight with all items stored 'out of sight' in lockers and bed boxes (bunks.)

Please take care that you have allowed for the weight of all items you intend to load into the caravan.

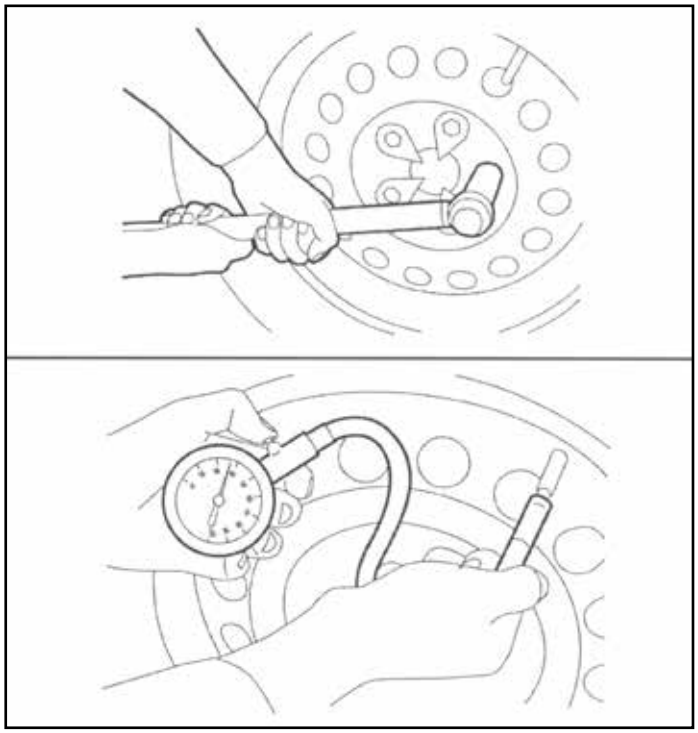
Noseweight

It is recommended that the noseweight should be varied to find the optimum for towing dependent upon the actual laden weight of the caravan. Experience has shown that the noseweight should be approximately 7% of the actual laden weight (i.e. between 50 and 100kg). However, this may be limited by the towing vehicle or caravan manufacturer's limit noseweight. Check with the car and caravan handbook, or consult your retailer. The upper limit for the caravan coupling head is 100Kg.

Hitching Up

Before hitching up the vehicle always check the following:

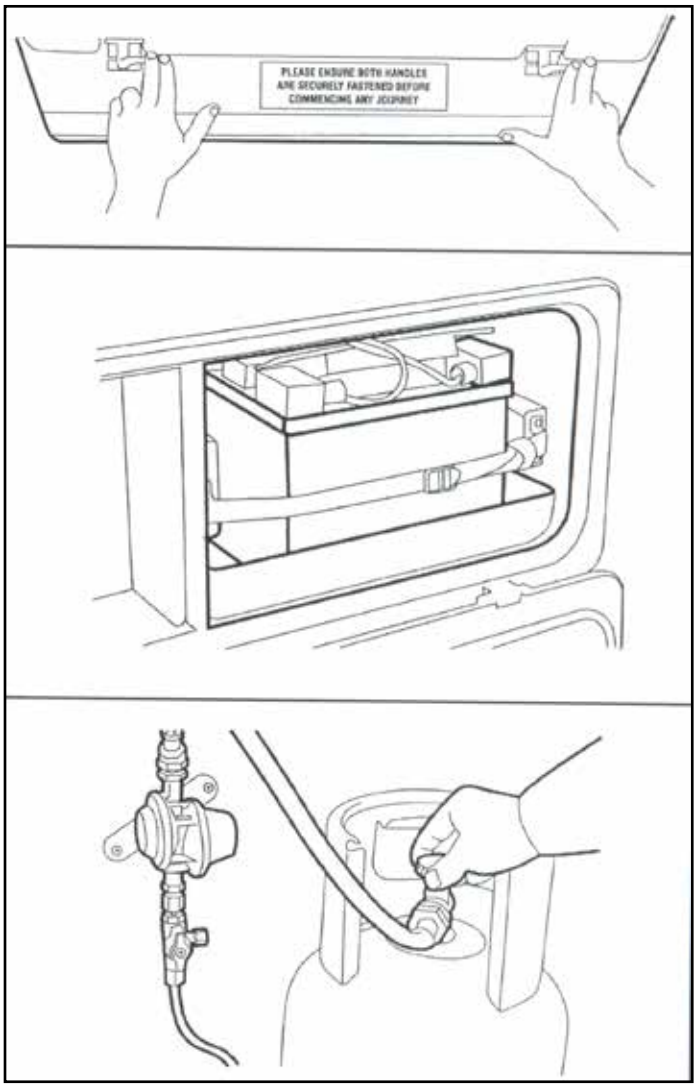
1. All wheel bolts are tightened to the correct torque. For the alloy wheels fitted to the Unicorn range the bolts should be tightened to a torque 130Nm (Newton Metres) For the steel spare wheel supplied with the caravan the wheel bolts should be tightened to 120Nm.
2. Inspect all wheels and tyres for signs of deterioration or damage.
3. Tyre pressures are correct according to the service handbook (remember to check the spare as well.)



4. Ensure all loose articles are stowed securely.

Do not store heavy items in roof lockers. Televisions and other heavy items must always be secured at floor level when towing.

5. All lockers and cupboard doors are closed and secured.



6. All bunks are secure.
7. All rooflights, extractor fans and sunroofs are closed and secured.
8. Tables are secured in their transit position.
9. Fridge is on 12v operation and the door lock is set (if required)
10. All windows are fully closed and latched. Never tow with windows on night setting.
11. Gas cylinders are correctly positioned, secured and turned off, the gas box is shut and locked.

Ensure no loose items are stored in the gas box and it is not 'overstuffed' with equipment, as this may cause impact damage to the inside of the panel.

12. Battery strap is connected and the battery is secure.

13. All external doors, flaps and ventilation ducts are closed and secure with their relevant covers in place.

- Before commencing any journey always ensure that the Heki rooflight is closed and both handles are securely fastened.
- All gas appliances and the gas bottles must be turned off whilst towing
- It is recommended that a minimum of 2 people work together when hitching up the caravan to the tow vehicle.

Hitching the caravan to the tow vehicle

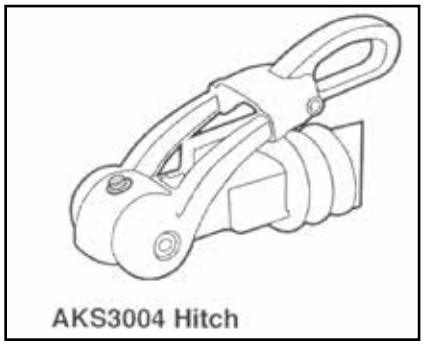
1. Ensure that the caravan is in a suitable position, and secure with the handbrake fully on.
2. Fully Raise all four corner steadies
3. Shut and lock the caravan exterior.
4. Gauge the height of the car's towball then raise or lower the height of the caravan's towing hitch to ensure that it is high enough to pass over it cleanly and not hit the tow ball. Rotating the caravans jockey wheel handle can do this. Clockwise to lower, Anti-Clockwise to raise.
5. The assistant should position themselves by the front near side of the caravan so that they can extend an arm horizontally to indicate the position of the caravan's towing hitch.
6. Remove the car's tow ball cover and keep it in a secure place in the car.
7. Slowly reverse the towing vehicle towards the Caravan.

When reversing the towing vehicle towards the caravan always ensure that any pedestrians and your assistant are visible at all times.

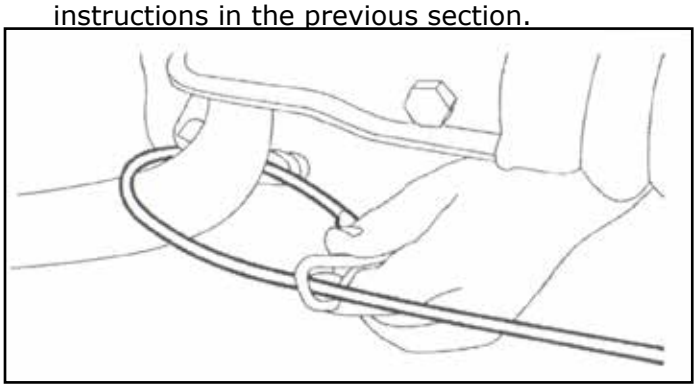
8. When reversing aim the towball of the car directly at the caravan towing hitch.
9. When the car's towball is as near to the Caravan's towing hitch as possible fully apply the car's handbrake, turn off the engine and leave the car in first gear (Park or 'P' position for Automatics.)
10. The final positioning should be carried out by manoeuvring by hand.
11. Carefully release the Caravan's handbrake.
12. Manoeuvre the Caravan's tow hitch directly over the Towing vehicle's tow ball.

Always manoeuvre the vehicle by pushing/ pulling on the grab handles. When the caravan is in the correct position fully apply the handbrake.

13. Raise the handle on the caravan tow hitch until it clicks and remains at an angle.


AKS3004 Hitch

14. Rotate the jockey wheel handle clockwise to lower the hitch onto the towball. When the tow hitch properly connected to the tow ball. When the tow hitch clicks and the handle drops to the horizontal position is engaged. The hitch head is fitted with a visual indicator on the front radius to show whether or not it is properly connected to the tow ball. A green band will show immediately below the red indicator button on the hitch head when a proper connection has been made.
15. Connect secondary braking cable as per the instructions in the previous section.



16. Test that the hitch is now fully engaged by slightly raising the caravan hitch from the car towball by winding the jockey wheel handle anti-clockwise. The hitch should not release from the car towball. Only raise the rear of the car enough to check the hitched is fully engaged.
17. Turn the jockey wheel winding handle to lower the caravan. When the wheel is fully retracted, release the clamp and raise the jockey wheel to travel position.
18. Once the jockey wheel is in travel position and the wheel is at its travel position and the wheel is located in the recess, tighten the clamp again.
19. All Caravans are fitted with a single 13 pin lead. Where the connector for the car does not match that of the Caravan an adaptor or replacement cable will be required. Please ask your supplying retailer for details.

Single 13 pin connection

20. Connect the lead to the receiving socket on the towing vehicle ensuring there is enough loose cable for cornering, but not too much so that it can drag on the ground.
21. Check all towing vehicle and caravan road lights are working and operation of the brake lights.
22. Pick up any levelling pads or levelling boards.

23. Fully release the caravan handbrake.
24. Carry out a second check that the hitch is secure and the secondary braking cable is connected.
25. Adjust the car's driving mirrors from the driving seat to ensure good rearward visibility.

7. TOWING

Speed Limits
Where a lower limit is not in force, caravans may be towed at up to a maximum of 50 mph on single carriageways or 60 mph on dual carriageways and motorways.

Pulling Away
Allow more engine speed to produce the power to move the additional weight of the caravan.
Let the clutch out smoothly
Avoid wear and tear on the clutch and transmission by taking extra care.
Change gears smoothly
Try not to jerk the clutch

Caravan Handling
Allow for the caravan being slightly wider than the car.
Allow additional distance from the kerb with caravan wheels so that they are not "bumped".
When passing other vehicles allow more than normal clearance for driving solo.
Overtaking and stopping distances are increased when you are towing.
Always indicate in plenty of time before carrying out any manoeuvre.
Allow longer to accelerate up speed prior to overtaking.
Allow for the vehicle being twice its normal length.
Do not suddenly swing out.
Carry out all manoeuvres as smoothly as possible.
Use nearside wing mirror to check caravan has cleared when overtaking.

Reversing
Proficiency at reversing can only be achieved with practice and should be first attempted in a large open area. Consider taking a suitable training course.

Motorway Driving
Caravans may not be towed in the outside lane of three or four lane motorway (Reg 12(2) of the motorway Traffic [England and Wales] Regulations 1982.)
Reduce speed in high winds, cross winds, downhill or in poor visibility.
High sided vehicles such as lorries or coaches can cause air buffeting, so extra care must be taken when passing or being passed. Give as much space as is possible between your caravan and the high sided vehicle.

Mirrors
The Law requires that the driver of the towing vehicle to have an adequate view to the rear.
If there is no rear view through the caravan windows it may be necessary to have additional exterior

towing mirrors fitted to provide a view along both sides of the caravan. In some countries these additional mirrors are a legal requirement.

Any rear view mirror must not project more than 200mm outside
The width of the caravan when being towed.
The width of the towing vehicle when driven solo.
An additional rear view mirror fitted shall be of an approved European type and cover the field of view as stipulated by the regulators.

Passengers are forbidden to ride in a caravan at any time.

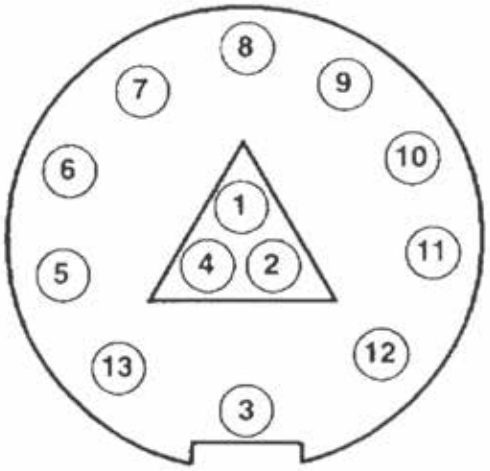
Snaking
This is a term used to denote an unstable car and caravan combination where the caravan 'weaves' from side to side often causing a similar swaying movement in the car itself. Possible causes are:
Insufficient tyre pressure on either the caravan or the tow vehicle.
Tow vehicle too light or weight distribution.
Incorrect loading or weight distribution.
Excessive speed especially downhill.
Side winds.
Overtaking.
Being overtaken by a high-sided vehicle.
Erratic driving.
Mixing radial and cross ply tyres.
Nose of the caravan is towing too high.
Insufficient nose weight.
For best stability aim at an 85% ratio of weights.

Stabilisers
A stabiliser should never be used to try to improve a caravan/towing vehicle combination that has poor stability as instability may appear at high speed.
However, a good stabiliser can make an acceptable caravan/towing vehicle combination more comfortable and easier to handle.

Holes should not be drilled in either the coupling head or 'A' Frame members without prior consultation with the chassis manufacturer.

If you do find your outfit snaking, try to keep the steering wheel in a central position as far as possible, slow down gently and avoid braking if possible.

Road lighting
All caravans are fitted with a single 13 pin lead. Where the connector for the car does not match that of the caravan an adaptor or replacement cable will be required. Please ask your supplying retailer for more information.



KEY:
1 Left-hand direction - indicator light
2 Rear fog light
3 Common return for core Nos. 1, 2 and 4 to 8
4 Right-hand direction indicator light
5 Right-hand rear position and marker lights, and rear registration-plate illumination device
6 Stop lights
7 Left-hand rear position and marker lights, and rear registration-plate illumination device
8 Reversing light
9 Continuous power supply
10 Power supply controlled by ignition switch
11 Return for core No. 10
12 Coding for coupled trailer
13 Return for core No. 9

13 pin connector

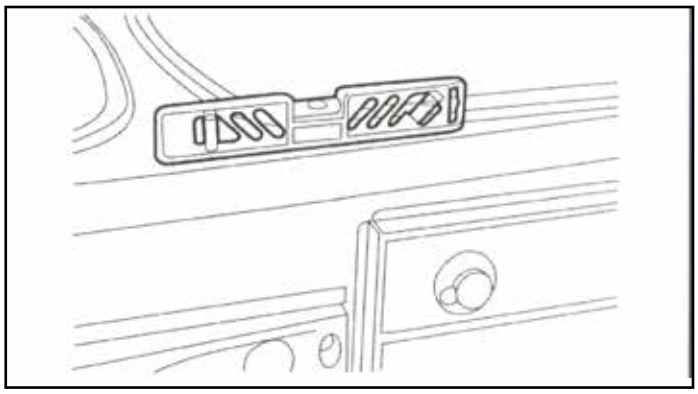
8. UNHITCHING.

Do not pitch in a position in which your outfit will obstruct other people.
Try to choose an area that is dry, reasonably level and preferably with a hard base.
If you have no alternative but to pitch on a slope ensure that , for when you leave, you are facing down the slope.
It is good practice to chock the wheels of the caravan when parked on a slope even though the caravan brakes are applied.
Fully apply the caravan handbrake.
Unclamp and lower the jockey wheel to the ground. Re-clamp it in this position. Operate the button on the hitch head and move the handle forward to release the mechanism. Operate the jockey wheel handle until the coupling head is clear of the towing ball.

Serious damage will occur unless the button is depressed first and the handle lifted forward before the caravan is lifted manually. This prevents the noseweight being transmitted through the button.

Re-clamp jockey wheel if necessary.
Disconnect the secondary braking cable.
Disconnect the 13 pin plug and return it to its holder.
Replace towball cover.
Park your vehicle alongside the caravan on the offside.

Levelling the caravan
Levelling must be carried out in both directions in order for the refrigerator and other equipment to function correctly.



he positioning of the jockey wheel can be used to help level the caravan.
Lower the corner steadies until they are in firm contact with the ground.

Under no circumstances should the corner steadies be used as a jack as they are only a means of stabilising the caravan.

Levelling pads or boards should be used under the steadies where the ground is soft or uneven.

In extreme cases where it is necessary to raise a wheel off the ground for levelling purposes, further adequate support should be applied under the wheel so that the corner steadies due not take any undue strain.

Towing Brackets
All tow cars registered since 1 August 1998 must be fitted with a European type-approved towing bracket, by law. It is recommended that other cars not affected by this law use only towing brackets designed and tested to British Standard BS (AU) 114b, or ISO 3853.

9. WHEELS AND TYRES.

Tyres
The tyres fitted by Bailey Caravans are Michelin car and van tyres. They are suitable for towing at sustained speeds of up to 81mph (130 kph) to allow for use in countries which permit these speeds.

Radial and cross ply tyres should never be mixed. It is dangerous and can cause snaking. Fit only tyres that are of the identical specification on each side.

Tyre wear and Damage.
The legal requirements for tread depth (1.6mm) on motor vehicles apply also to caravans.
In order to equalise wear it is suggested that wheels be balanced and changed around from time to time. When caravans are not in use for extended periods, wheels and tyres should be removed and stored in dry conditions and away from the outside elements. Alternatively caravans should be jacked up to relieve the load from the tyres.
It is dangerous to neglect tyre damage. Tyres should be checked for damage or cuts exposing the casing, or if it has suffered an impact (for example against a kerb), it is advisable to have it examined by a tyre specialist as soon as possible.

The caravan industry recommends that, for safety reasons tyres more than 7 years old from the date of manufacture be replaced, but preferably replaced at 4 years old. The tyres may have deteriorated by this time, regardless of tread depth.

The cleaning of tyres should only be carried out using soap and water. Petrol, diesel, paraffin and other solvents are not suitable.

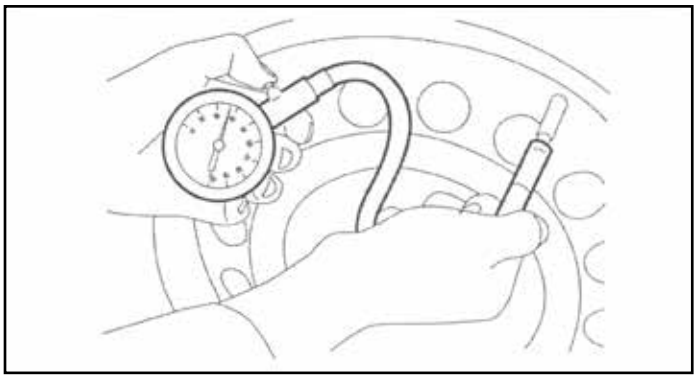
If the caravan is not used for long periods of time (periods of longer than 1 month) it is recommended that the wheels/ tyres are removed and stored upright in a rack, and rotated at least once a month to avoid the tyres becoming distorted. They can be covered with a natural material (e.g. Hessian) for protection but NOT plastic materials. This will reduce the deterioration of the tyres and reduce the cracking and flat spots caused by continuous loading and external conditions.

If it is not practical to remove the wheels it is recommended to routinely rotate the wheels to reduce the potential of cracking, flat spots etc.

Check with your insurance company that you are still covered when the wheels are removed.

Tyre Pressures.
Caravan tyres should be at the pressure recommended in the rear of this manual. The towing vehicle tyres should be set to the pressure recommended by the vehicle manufacturer for laden conditions. This will ensure the tyres and vehicle operate in a safe condition and maintain stability of the vehicle when towing.

Always check your caravan and tow vehicle tyre pressures when cold and prior to any journey. Also check tyre conditions for damage or cuts exposing the casing before and after any journey. (Inclusive of the spare.) If in doubt it is advisable to have it examined by a tyre specialist as soon as possible. Incorrect tyre pressures can seriously effect towed vehicle performance and the longevity of the tyre.



Consult your tow vehicle manufacture for the correct tow vehicle tyre pressures for towing.

Wheels
Caravan wheel bolts must always only be tightened to the appropriate setting by tightening each opposite fixing in succession to the correct torque. Always use a calibrated torque wrench. Do not use a corner steady brace, power or electric wrench. It is as dangerous to over tighten bolts as to not tighten them sufficiently.

The torque settings should be checked after the first 50Km /30 Miles. For *Alloy Wheels* the wheel bolts should be tightened to a torque of *130Nm (Newton Metres)* , for *steel wheels* the wheel bolts should be tightened to a torque of *120Nm (88 lb-ft)*

The condition of wheels should be checked regularly particularly for distortion of flanges and the wheel dish. Wheels damaged or distorted, or having the wheel bolt seating cracked or deformed must not be repaired.

If a wheel or tyre has to be changed it should be of the same type of construction and size as originally fitted.

Only use a spare wheel and tyre recommended by Bailey Caravans, which should be of the same specification as those fitted to the caravan.

Always ensure mating surfaces and bolt seating areas are clean and dry. Wheel bolts should never be lubricated.

Spare Wheels

1. Always ensure that the tow vehciel and caravan are is a safe position before attempting to change the caravan's wheel. We recommend leaving the caravan hitched to the tow vehicle when changing the caravan's wheel. The tow vehicle should be left in gear (or 'P'/Park for an automatic) with the handbrake on both the car and the caravan fully applied.
2. Lower the corner steadies as a safety measure to stabilise the caravan. Chock the un-punctured wheel on the opposite side of the caravan to prevent any movement.
3. Slacken off the wheel bolts by no more than one quarter of a turn on the wheel that requires changing. Do not fully undo them.
4. Place the jack plate under the axle tube as near as possible to the main longitudinal member. Where AL-KO Jack Brackets are fitted only use either an AL-KO Side Lift or Scissor Jack.
5. Jack up the caravan until the wheel for removal is just off the ground.
6. Remove the wheel nuts and remove the wheel.
7. Fit the spare wheel, then reverse the above procedure. Ensure that the wheel bolts are all fitted, and tightened in the correct sequence to the right torque (see information under Wheels for the correct sequence.)
8. Remember to tighten all bolts to the correct torque and re-check after 50Kms/ 30miles.

Under no circumstances should the corner steadies be used as a jack they are only a means of stabilising the caravan.

10. SPARE WHEEL CARRIER

The spare wheel carrier fitted in your leisure home is much like that fitted into your car.

To lower the spare wheel:

1. Remove the plastic stopper in the floor (in the Valencia and Barcelona this is under the fixed rear bed. The Cadiz is located in the rear Nearside bunk. Both the Seville and Madrid are underneath the carpet in the kitchen area.
2. The winder for the spare wheel carrier can be found stored nearby to the socket, in the Valencia, Cadiz and Barcelona it is stored inside the bed against the wall. The Madrid and Seville will be stored in the front bunk on the drop down flap.
3. Remove the winder from its storage location and insert the hooked end of the crank in the spare wheel retaining attachment.
4. Lower the spare wheel under the vehicle by turning the crank counter clockwise until it is not possible to turn it further.
5. Draw the spare wheel towards you from under the leisure vehicle.
6. Pivot the toggle at the end of the cable 90 degrees to release it from the spare wheel.

As a safety precaution have the flat tyre replaced or repaired before fitting back under the leisure vehicle.

CAUTION: When the spare wheel is being used on the vehicle, the retaining cable could damage the underside of the vehicle if not retracted.

Crank up the cable again by turning the crank clockwise. (The wheel with the flat tyre can be stored on the carrier for transport purposes.)

Returning the spare wheel to the storage compartment

1. Use the crank (turn it counter clockwise) to lower the spare wheel's retaining cable.
2. Pass the toggle at the end of the cable through the centre hole in the spare wheel. Pivot the toggle 90 degrees so that when raised, the wheel will rest on the toggle.
3. Retract the retaining cable slightly by slowly turning the crank clockwise several times.
4. Position the wheel so that it is not obstructed by components under the floor.
5. Continue to raise the wheel by turning the crank clockwise. Raise the wheel a little bit at a time and guide it until it is securely seated against the floor.
6. When it is no longer possible to turn the crank any further check that the spare wheel is seated against the underside of the floor and has not fouled on any component.
7. Replace the plastic stopper inside the vehicle.

11. THE AL-KO CARAVAN CHASSIS

Chassis members
The recommended tow vehicle coupling height is 385 +/- 35mm from the ground to the centre of the ball.

Off Road vehicles are exempt from this towball height specification.

Manufactured from high quality steel, the chassis has extra deep sections to provide strength at points of maximum stress. Large elongated holes are punched in the longitudinal and towbar, ('A' frame) members, to reduce weight to a minimum. Each hole incorporates a return flange to maintain the required strength and provide rigidity in the extra deep sections.

The chassis frame is of a bolted construction which, should the need arise, allows replacement of individual parts.

The chassis is Hot Dipped Galvanised. This is regarded as one of the best forms of corrosion protection. It does however require minimal maintenance in certain circumstances.

When new the chassis is of a bright and shining appearance. As the galvanising cures during the initial 2 to 3 month period, this will gradually change to a medium to dark grey colour. This grey finish is the ideal, giving the correct protective coating. During this curing period the surface should be protected to avoid possible wet storage stain, in the form of a soft, light coloured, porous, oxidation layer. If the chassis members are in contact with any salt deposits from roads this should immediately be washed off with a high pressure washer. Salt attracts moisture allowing the surfaces to remain wet; this prevents curing and also allows formation of wet storage stain.

It is recommended that the chassis be washed off, using a pressure washer on an annual basis (particularly after winter usage) to avoid undesirable build up of salt and dirt deposits.

The galvanised chassis should not be painted or subjected to any other protective treatment.

Should the galvanising become superficially damaged exposing the steel core, this should be cleaned and treated with a cold galvanising spray obtainable from vehicle accessory outlets.

Damage to chassis members through impact etc. must not be straightened or welded. Damaged chassis members must be replaced.

Drilling or welding of parts or accessories
This chassis is designed and built to precise tolerances and must not be drilled or welded.

Independent suspension
The AL-KO rubber suspension is designed and developed to suit all types of road conditions and is maintenance free. Three rubber elements are contained within a hexagonal axle tube. These provide suspension and have inherent damping characteristics. (Only the hubs and wheel brakes require attention - see axle booklet Part No. 580458).

Coupling head
The ball couplings are entirely automatic in operation and designed for one hand operation to suit the 50mm international ball recommended by the British Standards Institution, National Caravan Council and the Society of Motor Manufacturers and Traders.

Secondary braking (Breakaway cable)
Please refer to details in Section 2.2.5, page 2-3.

Uncoupling
Having lowered the jockey wheel to the ground, operate the handle as previously described. Lift the coupling clear of the towing ball either manually or by operating the telescopic jockey wheel.

Brake drum/hub assembly
The Euro Axle fitted to your Bailey caravan comes complete with maintenance-free wheel bearings greased and serviced for life. Adjustment is not required during the design life of the sealed bearing (100,000 km).

- If replacement of the brake drum or shoes is required, this must be carried out by authorised AL-KO Service Centres. Specialist tools and equipment are required. The rear hexagonal bolt covered by a black plastic cover must NEVER be touched.

Operating instructions
Coupling handle (Fig 1/item 1.) Stabiliser Lever (Fig 1/item 2.)

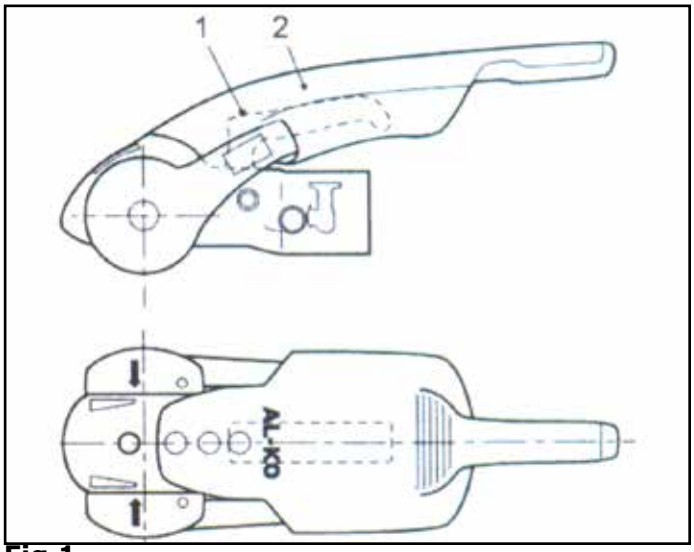


Fig 1.

The Stabiliser lever (Fig 2/ Item 2) must be in the uppermost position (open).

Coupling
Pull the coupling handle (Fig. 3/Item 1) up in the direction of arrow. The coupling mechanism has an open position i.e. as long as the AKS 3004 is not placed on the ball, the handle will remain open. Put the opened coupling onto the clean towball. The handle must now make an audible click and return to the flat position.

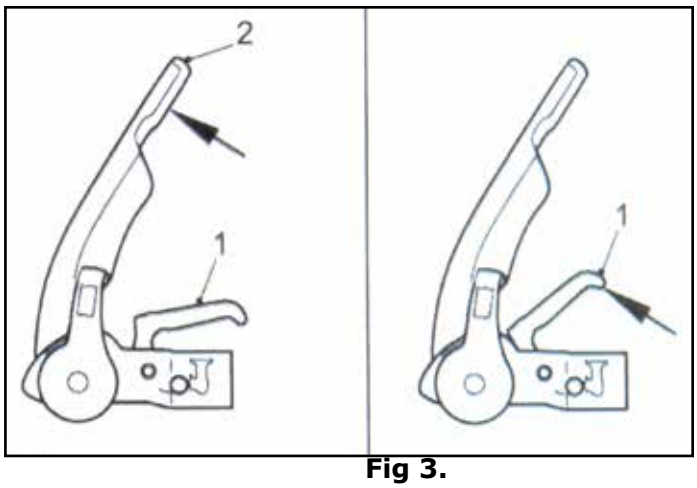


Fig 3.

The coupling is correctly engaged when the green edge of the safety indicator button is visible (Fig. 4/Item 3).

Always ensure that the jockey wheel is fully raised and secure before commencing any journey.

Stabiliser Unit:
To operate the Stabiliser (once coupled to the towball), simple press the stabiliser lever down as far as it will go (Fig. 4/Item 2).

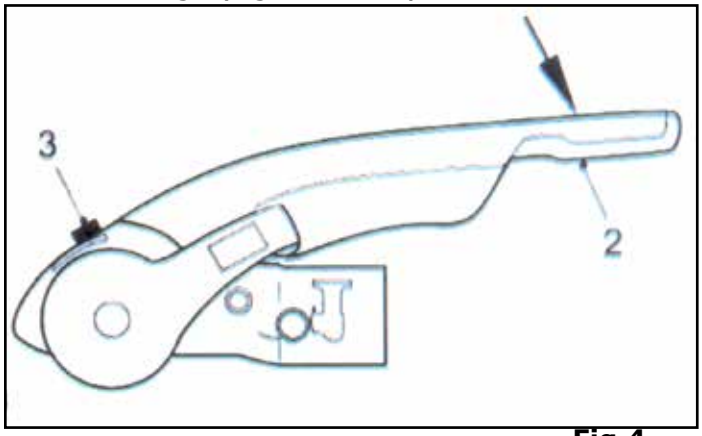


Fig 4.

Uncoupling
1) Pull the stabiliser lever handle up as far as it will go, open the coupling handle and lift the AKS 3004 from the towball. With larger nose loads, coupling and uncoupling can be made easier by using the jockey wheel to assist lifting.
The friction pads are pressed against the towball and hence generate a stabilising/damping force. These pads are therefore subject to wear over time, however they will have a long service life (circa. 30,000 Miles), provided they are well maintained and kept free of grease/dirt.

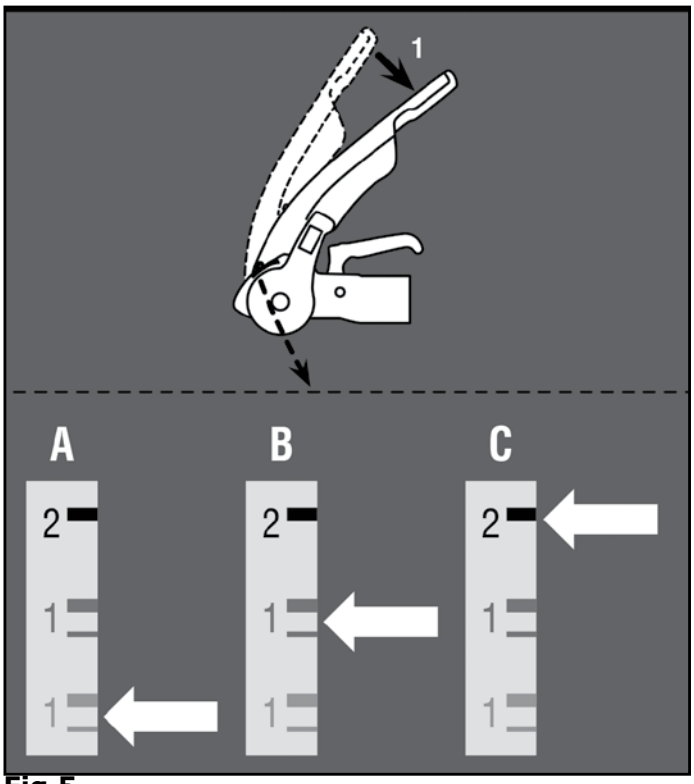


Fig 5.

Checking the efficiency of the left/right friction pads:

1. Check that the stabiliser is correctly coupled by ensuring the coupling handle is fully down and the red indicator button is in the raised position.
2. Push the stabiliser lever (fig 5/item 1) down until resistance is felt (i.e. the friction pads are in contact with the ball but not yet under pressure.)
3. Check the position of the arrowhead on the arm of the stabiliser. If it lines up with the two green lines then the friction pads are still as new (Fig 5/A)

If the arrowhead lines up with the two red lines then the friction pads are worn and should be replaced immediately (Fig 5/A)

When the stabiliser lever is correctly applied, the arrowhead should like up with the black line marked 2 (Fig 5/C)

The friction pads do not require any form of lubrication and should be cleaned with a fine emery paper prior to every journey. It is not necessary to adjust the friction pads.

Manoeuvring operation

For easier manoeuvring (on campsites etc), pull the stabiliser lever to the 'up' position.

Please do not use the stabiliser lever as a manoeuvring handle. Please use the handles on the Caravan or fit the AL-KO manoeuvring handle to your jockey wheel (available separately).

1) During opening or closing, the AKS must only be operated by one person.

2) Press stabiliser lever down by hand force only DO NOT use your foot or an extension bar, this will damage the components (Fig. 6).

3) When opening or closing the stabiliser lever, please ensure your hand does not touch the coupling handle **-** you may accidentally trap your fingers! (Fig. 6).

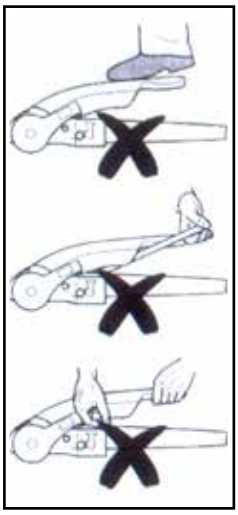


Fig 6.

Noises whilst driving

As a rule, the friction pads of the AKS 3004 do not make a noise during driving. Any clicking, creaking or squeaking noises that do arise may be due to the following:

a) Foreign bodies or dirt between the friction pad and tow ball.

b) Dry operation of the drawshaft inside the overrun device.

c) A detachable towball which has too much play in the locking mechanism.

Remedial Action

a) Clean the tow ball and friction pads by lightly rubbing the surface (100- 120 grit emery paper)

b) Lubricate the drawshaft sleeve via the grease nipples. In addition, push the gaiter forward and grease (DIN 51 825 KTA 3K) the exposed part of the shaft (Fig, 7).

c) Visit a specialist workshop to have the ball holding area checked for damage and the locking mechanism for function. If necessary, change the towball.

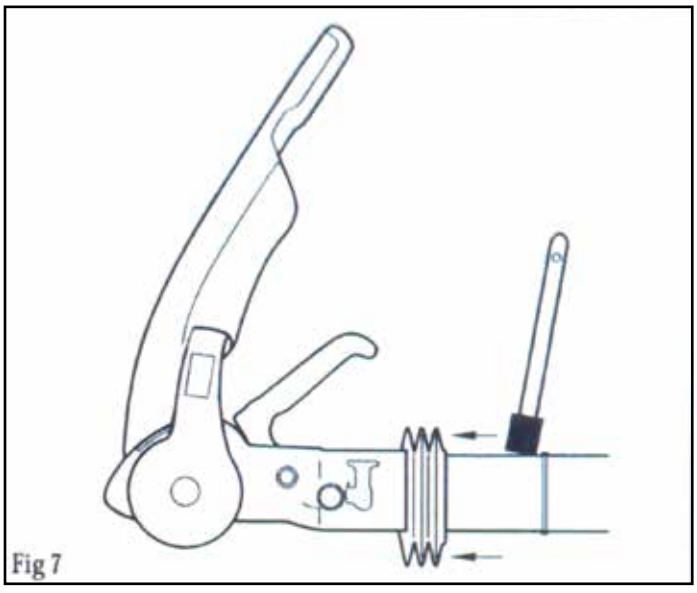


Fig 7

Storing
To reduce the possibility of contamination of component parts of the AKS 3004 the stabilising handle should be closed.

Towing ball
The automobile towing ball should measure 50mm maximum and 49mm minimum diameter (DIN 74058). If the ball is below 49mm diameter it should be replaced immediately.

Overrunning device
The device housing is packed with grease on assembly, but will require periodic maintenance to ensure smooth operation of the braking system.
i. Regrease the shaft bearings via the grease nipples provided at 3000 mile intervals, and before storage.
ii. Ensure correct functioning of all pivot pins and levers and oil regularly.
iii. Ensure correct functioning of handbrake ratchet and oil regularly.

Jockey wheel
Lubricate wheel and screw thread periodically with grease.

Brake linkage
All moving parts should be lubricated periodically to ensure their satisfactory operation.

Corner steadies
The screw and pivot pins should be lubricated periodically to ensure their satisfactory operation.

Braking system adjustment
(At 500 miles, then every 3,000 miles or 1 year)
i. Ensure the towing shaft with coupling heads is pulled fully forward (fig. 8).

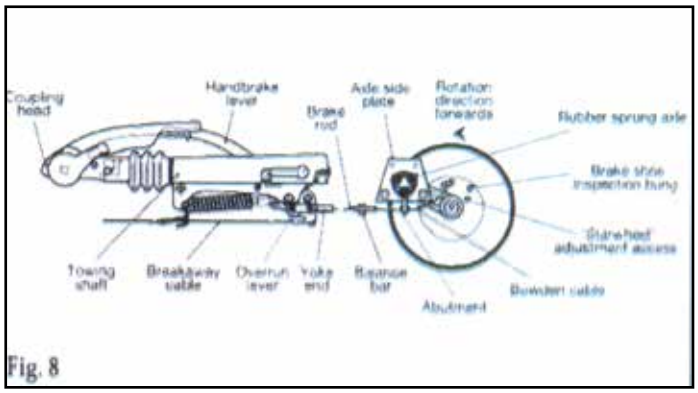


Fig. 8

ii. Release the handbrake to the fully off position. If the handbrake will not go down the whole way because of the fairing or any other obstruction; then the fairing must be cut away and/or the obstruction removed to achieve this desired position. It will not be possible to set up the braking system properly when the handbrake is not in the fully off position (fig .8).
iii. Jack up one side of the caravan (see Jack Operation Instructions).
iv. Remove the inner plastic bung from the backplate to expose the 'starwheel' adjuster access (figs. 8 & 9).
v. Always rotating the road wheel in the forward direction – never backwards; adjust the starwheel with a suitable screwdriver, in the direction of the arrow embossed on the backplate until there is resistance in the wheel rotation (fig. 9).
vi. Slacken off the starwheel adjuster until the road wheel turns freely in the forward direction (fig. 9).

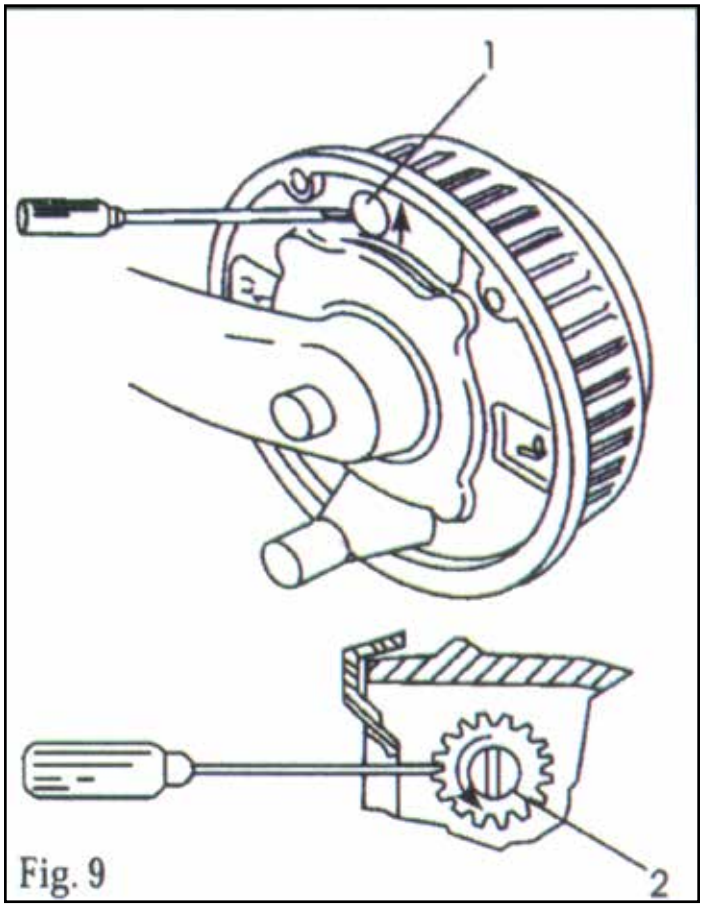


Fig. 9

vii. Check the adjustment at the end of the brake cable where it is secured to the abutment (bracket) welded to the centre of the axle. When the inner cable is pulled out it should extend between 5 and 8 mm (fig. 8). (On tandem axles a double abutment is fitted to the front axle only).
viii. Repeat for other wheel or wheels.
ix. Ensure the balance bar (compensation) is being pulled evenly. This bar (double on tandem axles) should always be paralleled with the axle tube when pulled (figs. 8 & 10). Adjust M8 lock and ball nuts, if necessary, to achieve correct parallel position (fig. 10).
x. Check the brake rod support bracket, (fixed to the floor) is supporting the brake rod evenly. The brake rod must always run straight, never bent or curved under any fittings. On tandem axles, using the double balance bar, a brake rod support tube (Part No. 228827) must always be fitted on the end of the brake rod, passing through the centre aperture on the abutment.

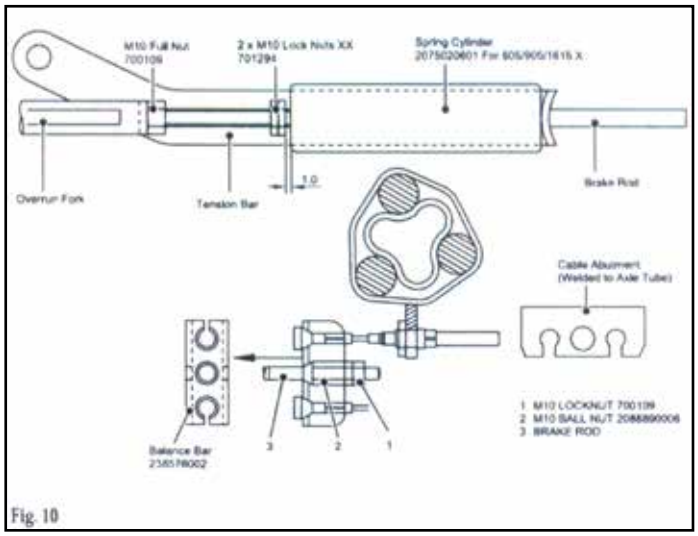


Fig. 10

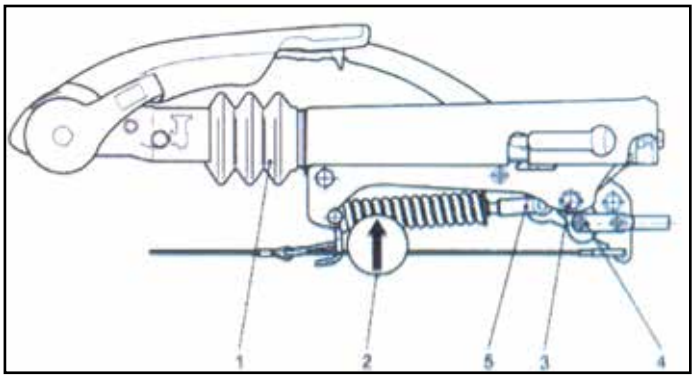
xi. Remove the slack in the brake rod by adjusting the long ball nut, rear of the balance bar; ensuring the overrun lever makes contact with the end of the towing shaft. Over adjustment to the long ball nut (Fig 10), could induce movement of the inner brake cable, reducing the effective clearance of the brake shoes. If the overrun lever will not make contact, it is possible the two lock nuts, forward of the spring cylinder, are incorrectly adjusted. Loosen the nuts and adjust the brake rod as above (Figs 8 & 10).
xii. Adjust the two locking nuts, forward of the spring cylinder (fig. 10), (on some chassis a single Nyloc nut is used) to give 1mm of clearance on the spring cylinder. This cylinder (the energy store for the handbrake operation) must be able to rotate only, not slide on the brake rod. (See Fig. 10). If the overrun assembly is fitted with a gas strut handbrake then no spring cylinder is fitted - therefore ignore this paragraph).
xiii. Correct adjustment of the linkage is checked by operating the handbrake lever so that when the second or third tooth is engaged, a slight braking force is felt on the road wheels.
xiv. Over adjustment of either the wheel brakes or linkage, will result in difficult reversing causing the wheels to 'lock-up'.
xv. When parking, the handbrake lever must always be engaged into the fully upright position (90°). This is to compress the spring within the spring cylinder and thereby create an energy store, which will automatically engage the brakes further should the caravan move.
xvi. If difficulty is experienced in this operation, try easing the caravan backwards with one hand while engaging the handbrake fully with the other. This manoeuvre should not be attempted on a rearwards facing slope. In this case wheel chocks should be used combined with the handbrake.
xvii. Finally, if the road wheels have been removed, re-tighten using a calibrated Torque Wrench to 130Nm- on all M12 wheel bolts - in sequence, i.e. North, South, East, West not clock or anticlockwise. Remember to over tighten is just as dangerous as to under-tighten, as this can distort the wheel rims. Avoid the use of power wrenches.

The torque settings should be rechecked after 50km /30 miles. Wheel bolts should never be lubricated.

In order to operate the Al-KO braking system correctly adequate traction of caravan wheels is required when reversing. Therefore surface conditions that would result in a lack of traction should be avoided. Example: Peas, shingle/loose gravel.

Care should be taken when traversing ramps or other obstacles in order to prevent damage to the caravan under gear. When approaching such obstacles reduce towing speed appropriately.

Chassis Lubrication Points
1. Grease the drawbar in the area of the bellows.
2. Grease the bearing bush through the grease nipples on the housing and the cartridge.
3. Grease the pivot bolt of the overrun lever and handbrake levers through the grease nipple.
4. Grease the joint of the brake rod and fitting.
5. Oil the joints of the spring cylinder in the handbrake lever.
Lubricant type: Multi-purpose grease to DIN 51825 KTA 3K4.



12. ROAD LIGHTS.

It is important that all the road lights on your Bailey caravan are checked before you set out on a journey.
All lights must be working in the correct manner for the vehicle to be road legal.
Clean the outside of the lights with a non abrasive or non aggressive cleaning solution.
Always replace a lamp which is showing any sign of damage.

13. TRACKER MONITOR

Operating Instructions
Tracker Monitor for caravans is armed and disarmed by an alarm. Triggering the alarm siren does NOT generate an alert from the Tracker Monitor unit.

To Arm
To arm the Tracker Monitor system, press the button on the remote control once. The siren will beep twice.

After 45 seconds the alarm system will arm. After a further five minute delay the Tracker Monitor system will arm.

The siren will be triggered if the caravan is towed, moved or lifted onto the back of a trailer. The siren will sound for five minutes unless stopped by the user. The Tracker Monitor sensor must detect movement over a longer period before it will alert. Therefore if the siren is triggered accidentally it will not send a false alert. The siren can also be triggered by a passive infrared detector (PIR) (optional, see your caravan dealer.)

To Disarm
To disarm the Tracker Monitor system press the button on the remote control once. The siren will beep once and the Tracker Monitor system will disarm. If already sounding, the siren will be silenced.

Tracker Monitor is supplied with two remote control units. Additional units may be ordered from your caravan dealer.

Winter Storage
Before storing the caravan for winter, please ensure that the leisure battery is fully charged. Dependant on the battery's capacity and age, it will require recharging at intervals of between three and six months.

Fault Finding

General questions
Q How does the system work?
A Tracker monitor for caravans is armed and disarmed by an alarm. Triggering the alarm siren does NOT generate an alert from the Tracker monitor unit.
To arm the Tracker Monitor system, press the button on the remote control once. The siren will beep twice.
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To disarm the Tracker monitor system press the button on the remote once. The Siren will beep once and the Tracker monitor will be disarmed. If already sounding the siren will be silenced.

Q I have been pushing my caravan around the car park and the alarm has not gone off?
A Please see above

Q I set the alarm and went for a drive, the siren went off but Tracker has not telephoned me?
A If you started driving before the 5-minute arming time has expired then the system will not send an alert to Tracker.
Please refer to the first section.

Q If Tracker telephones me and I am at home why do I need to check my caravan? I keep it at a secure compound so it must be safe or stolen so why can they not track it?
A Tracker can only activate on the receipt of a crime reference number and confirmation of theft.

Q The alarm keeps sounding and Tracker do not telephone me?
An alarm sounding will not trigger the Tracker, which needs acceleration of the caravan to trigger. Think of it as two separate systems within one; an alarm system and a stolen vehicle recovery system.

Q I am changing my caravan and it does not have a Tracker system, can I take it out and fit it to my new one?
A No, it is not possible to transfer it to another caravan.

Q Will my Tracker system work in France?
A Yes the Tracker System works in England, Scotland, Wales, Northern Ireland, France and Spain.

Questions Relating to Power:
Q Will the Tracker battery recharge?
A Yes, the Tracker battery is a sealed battery and will recharge when the leisure battery is being recharged in situ on the caravan.

Q Will the Tracker system work if the leisure battery is being disconnected?
A With your leisure battery removed then the Tracker system will have a battery life of approximately two weeks, after that the Tracker battery will be flat. You must keep the leisure

battery connected and fully charged.

Q What do I do if the leisure battery has been disconnected or never connected since the caravan was delivered from the manufacturer?
A At the first opportunity you must fit a charged leisure battery and connect to a mains hook up. This will enable your Tracker battery to recharge.

Q My caravan is in secure storage on a farm/compound. Do I need to check my leisure battery?
A Yes, you must check the charge of your battery and recharge if necessary. This will depend on your leisure battery's capacity, age and state of charge. This will be required at intervals of between 3 to 6 months.

Q How long will the Tracker system work if the caravan is not connected to a mains supply?
A Please see above question

Q How do I know if my Tracker battery is fully charged?
A Your Tracker battery will be fully charged as long as you have not had a flat leisure battery and you at regular intervals between 3 and 6 months connect to a mains hook up.

Q My leisure battery went flat; do I need to do anything?
A Yes, you must charge the leisure battery by connection to mains hook up. This must be connected within 24 hours. This will charge the Tracker battery.

Q How long will the Tracker work from my leisure battery?
A With a 90Amp hour battery it will last for approximately 6 months. Like any other battery, this figure can only be offered as an approximate due to Tracker having no control over battery deterioration, usage, natural conditions etc.

PIR Questions
Q Can I have a second PIR fitted?
A Yes, you can have any number of PIR's fitted. They will need to be programmed to your Tracker, please refer to your Retailer.

Q Does the PIR cause a Tracker system to go off?
A No, the PIR will only make the siren sound. It will not trigger the Tracker monitor system to send an alert.

Q The PIR has a red light on it, my children are kept awake at night can I switch it off.
A No, the warning LED indicates that the unit is working and cannot be switched off.

Q I keep dogs in my caravan and the alarm keeps going off, can I switch off the PIR?
A No, this is not a feature of the system and will always be working.

Q The PIR is making a funny noise why?
A The PIR has a low battery warning tone. If this is sounding then the battery required replacement.

Q What battery is in the PIR and where can I get one?
A It uses a PP3 size battery. These are commercially available.

Radio Remote Questions
Q I pressed the radio Remote button and nothing happened. Why?
A Did the small red light on the Radio Remote illuminate? If not try changing this battery use a GP23A type battery.
Have you got your leisure battery connected and charged? If not charge this by connection to ground hook up for over 24hours.

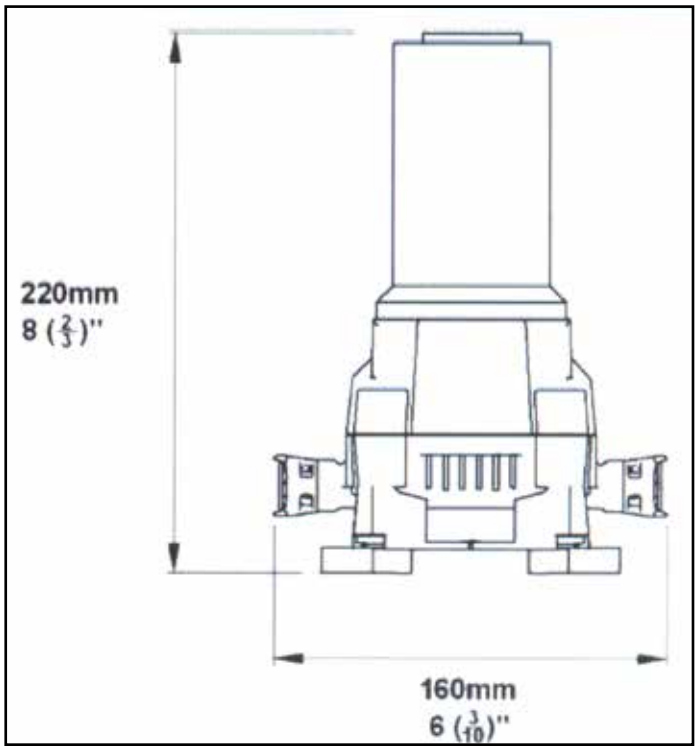
Q What battery do I need for the Radio Remote
A A GP23A type battery. These are commercially available.

Q I think I have lost my Radio Remote. What can I do?
A You need to go to your Retailer to purchase a replacement remote. He will de-program your old remote from the alarm then it will never work and at the same time re-program the alarm to the replacement remote.

Q I only have one Radio Remote. Can I obtain more?
A Yes, your dealer will be able to sell you additional remotes and program the system for them.

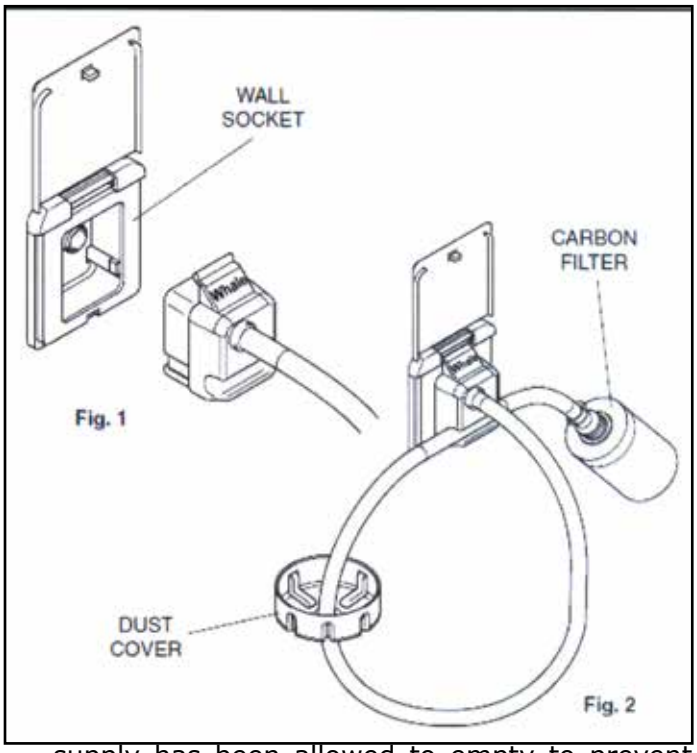
14. THE WATER SYSTEM

This water system has an on board pump which is located in the vehicle (usually under a bed bunk). The exterior fitment is simply a filter in which your inboard pump draws the water from the external water container.



Priming the System using the External Water Container

1. Adjust dust cover over water container opening (please note dust cover should not be secured to water container as air must be allowed to enter container to replace water being drawn out).
2. Open one cold tap (e.g. kitchen sink).
3. Place carbon filter assembled to hose, into a full water container.
4. Insert plug into wall socket and close lid to lock plug in place (see fig. 1).
5. Switch on 12 volt supply at main control panel located by the exterior door.
6. Water will flow from the open tap expelling any trapped air in a few seconds. The water may at first be greyish in colour which is quite normal; the discoloration is due to harmless media being flushed out of the new filter cartridge.
7. Close cold tap and open hot tap to expel any remaining air in the water heater (this may take up to 30 seconds). Then repeat this exercise with the remaining taps in the caravan.
8. The system is now ready for use. Hose can be inserted into plug groove (fig. 2) to keep filter off the ground while refilling water container. Keep socket lid shut at all times when plug is removed.
9. When the caravan is left unattended or water supply has been allowed to empty to prevent the pump running continuously, turn off at isolating switch.
10. Care should be taken when turning on any of the hot taps after the water heater has been switched on as steam can spurt from the tap whilst the hot water system is filling.



Routine Maintenance

Ensure the hose adapter 'O' ring and the socket in the housing are kept free from dirt.
Use only silicone or water based lubricant to inlet nipple 'O' rings on socket for lubrication.
Drain system thoroughly during the winter month, (see separate winterization instructions.)
Service inlet socket annually, (use Whale's AK8834 service kit containing all serviceable parts.)
Replace the WF3000 water filter annually.

Cleaning Containers and the System

Cleaning instructions for both water containers and the water system are detailed in general maintenance section of the handbook.

Aquasource Direct Mains Water Connection

(This is not included as standard equipment, but is available from your nearest Bailey retailer).

- The Aquasource fits simply and securely to your Whale socket system.
-
- Comes with 7.5m of food grade layflat hose, which is compact for storage. (A further 7.5 extension hose is available as an optional extra to extend the hose).
-
- The system is pressure controlled to protect your caravan from sustaining damage to your

water system (plumbing connections should be checked at the beginning of every season for frost damage or loose connections).

When using an Aquasource system, do not sleep or leave the vehicle unattended without turning off the water source.

Draining and Winterisation of the Water System
The Bailey Unicorn Caravan maybe in use all the year round, but when they are not in use, even for short periods, this procedure should be followed. One night in freezing temperatures is all that it is required for expensive, permanent damage to water system components.

Ensuring that all water is removed from the Caravan's pipework, taps and appliances will reduce the risk of frost damage occurring. Frost damage can occur when water left in the system freezes and expands, causing pipework and appliances to split, crack or burst.

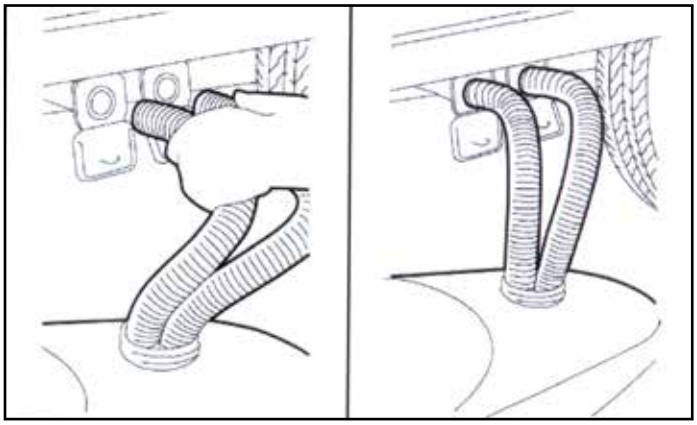
Ideally position the Caravan so the drain valves are at the lowest point i.e. tilt the caravan.
Turn the pump off
Open all taps/mixers in the mid position, including the external shower (if fitted).
Remove shower handset (including the external shower, if fitted) and shake water out.
Open water heater drain valve and leave open.
Open on board tank drain valve (if present) and leave open.
Where grey waste tanks are fitted, remove all sink plugs and open the drain tap.
Open any other drain points (if present).
External water components - shake water out of pump/AquaSource/Aquasmart filter assembly and store inside the Caravan.
Internal pump - turn on and allow to run to expel additional water for 2 minutes.

It is essential that the lever of ceramic ball mixer taps is fully raised and in the central position. Failure to do this will not allow both the hot and cold water system to fully drain and will result in frost damage.

Setting up the Water System.
Refit old filters:
Check all plumbing connections.
It is recommended at this point to steralise your water container and flush the system through with a sterilising fluid.
Renew old filter after flushing system through. It is also recommended that the water system is checked during annual service.

Frost damage cannot be claimed under warranty.

Shower Tray
The shower tray cannot be expected to drain fully, some residual water may remain which will require "mopping up."



Waste (Grey Water System.)
The waste water (often referred to as 'grey' water) from the caravan's sinks and shower tray are outed to two outlets just behind the offside wheel.

When setting up your caravan short pieces of waste pipe hose should be fitted to the wastewater outlets to direct the water into a suitable container. These are both available from your caravan retailer.

Ensure that the exit ends of the waste water pipes, that direct the waste water into the holding container, cannot be submerged by the waste water in the holding container at any time.

Upon arrival at the caravan site advice should always be sought from the site manager as to where waste (Grey) water is to be disposed of.

Water System Trouble Shooting

FAULT	CAUSE	SOLUTION
Pump Doesn't run	No Power to pump	Check power supply Attach leads/clean corrections
	Fuse has blown	Replace fuse (do not exceed recommended fuse size.)
	Blockage in pipework	Check pipework for kinks.
Pump runs but no water appears	No water getting to pump	Check Water tank is not empty. Check filter is not blocked. Remove each valve lever, tighten the nut located below the valve lever and replace the lever. Check all connections from tank to inlet of pump are secure, any air leaks will prevent prime. To test for air leaks hold showerhead underwater and operate the pump. If air bubbles are visible coming from the showerhead an air leak is present.
	Water leaking at outlet side of pump	Check pipework /fittings for leaks and repair. Check water system drain plugs are closed
Pump runs but will not switch off	Water leaking at outlet side of pump	Check water system drain plugs are closed
	No Water	Check water supply level. Check and replace filter if clogged.
Pump cycles on and off periodically when all the taps are closed. (Normal with partially opened tap.)	Water leaking at outlet side of pump	Check pipework /fittings for leaks and repair. Check system drain plugs are closed.
Pump cycles on and off excessively when tap/s are open	Excessive back pressure	Check pipework for kinks and filters etc, are clear. Check shower rose/taps for blockages and repair.
Noisy Operation	Pump drawing air	See cause 'No water getting to the pump'
	Noise created by vibration	Check pump is secured to solid surface. Check pump body is clear of hard surfaces. Locate away from interfering surfaces. Check pipework is securely supported.
Low Flow	Bore of Pipework/ connections too small	Check for kinks in pipewok. Check pipework is not blocked
	Power supply to the pump	Check battery is not discharged.
	Pipework/ connections crushed due to over tightened jubilee clips	Replace damaged connections
	Water leaking at outlet side of pump	Check pipework/ fittings for leaks and repair. Check system drain plugs are closed.
	Pump internal filter clogged (if present)	Remove fitting connected to pump inlet, using point nosed pliers remove cylindrical filter mesh from inside pump inlet. Clean and refit filter and plumbing.

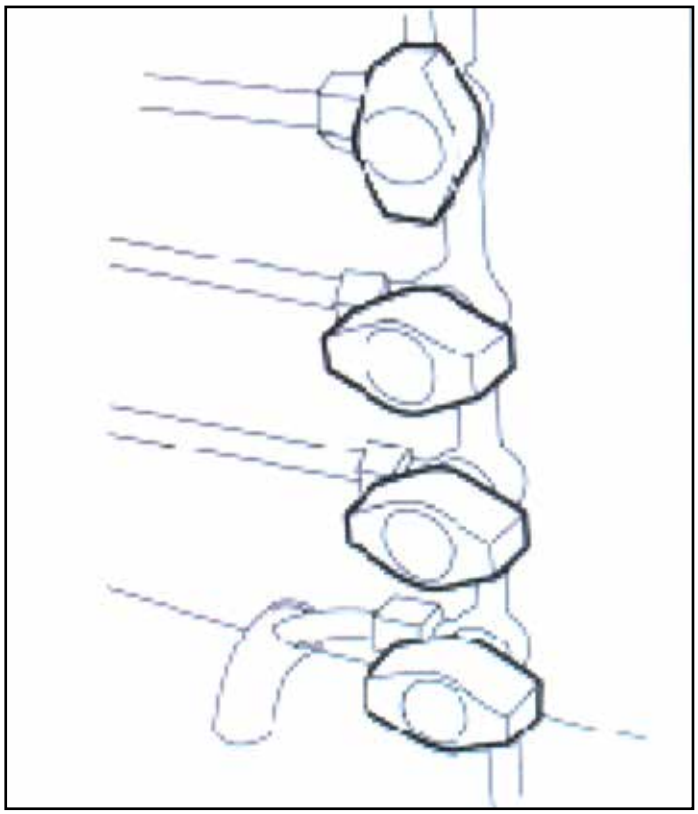
15. THE GAS SYSTEM

All gas appliances fitted to your Bailey caravan are suitable for operation on both Butane and Propane without the need for adjustment.

General information
Gas Cylinders: Bottled Liquid Petroleum Gas (LPG) is the most convenient portable source of fuel for your caravan.
Cylinders are available in the following sizes:
Calor Gas = 3.9kg, 4.5kg, 6kg & 7kg.
BP Gaslight = 5kg & 10kg.
All sizes will fit into your gas box.

Never allow modifications of the electrical or Liquid Petroleum Gas systems and appliances except by qualified persons.
Never use portable cooking or heating equipment, other than electric heaters that are not direct radiant type, as it is a fire and asphyxiation hazard.

Types of gas
Butane
Butane is supplied in the UK in Green or Blue bottles. Continental bottles usually have a male left hand thread similar to but not identical with UK Butane. Butane is suitable for use at temperatures down to 2°C but will not work below that temperature.
Propane
Propane is supplied in red, or partly red bottles that have a female left hand threaded connector.
Scandinavian countries use the same connector.
Germany or Austria supply Propane with a male connection.



Propane will work at temperatures as low as -40°C and is therefore suitable for all winter caravanning. Make sure that heating, cooking appliances and gas cylinders are switched off before you move the caravan.
All gas appliances in your tourer can have their gas supply individually isolated by turning off the relevant tap. The tap is either located on the centrally positioned gas manifold or directly beside the appliance.
Regularly check flexible gas hose, joints and connections for tightness.
Finally make sure that each gas appliance is working efficiently to the recommendations of the appliance manufacturers.
The regulator is a governing device which adapts the bottle pressure to one that suits the equipment in the caravan.

Some industrial LPG appliances operate at high pressure and require a 'high pressure' regulator. This often has an adjusting handle on it. Never use such a regulator on a caravan.

- Propane and Butane gas regulators are not interchangeable.
- Always ensure that the gas system is inspected/ maintained every 12 months.
- In the event of a fire ensure all occupants evacuate the caravan via the nearest escape route.
- If it is safe to do so turn off the yellow isolating valve located in the gas box directly below the regulator.
- If you suspect a gas leak then immediately turn off the supply of gas at the yellow isolation tap located below the regulator in the gas box. Then turn off the gas valve on the gas bottles. When this has been completed the system must be inspected by a competent person.
- Never use gas bottles located outside the caravan gas box. Do not use any gas extension hoses.
- Gas barbecue - always use gas appliances that are suitable for use at 30mbar.

Your caravan is fitted with a regulator as standard equipment. This is located in the caravan gas box mounted on the bulkhead of the caravan between the gas bottles. The gas regulator has a working pressure of 30mbar and is suitable for both propane and butane liquefied petroleum gas. There are dedicated hoses available for different types of gas/bottle. They are also available for camping gas and other mainland Europe LPG Suppliers. Please contact your Retailer who will have a stock of these hoses.

Changing Gas Cylinders
- Ensure that the cylinder is empty, then:
- Turn off the tap located by the gas regulator.
- Turn off cylinder valve and all gas appliances
- Remove the gas hose regulator from the cylinder.

- Release retaining strap
- Remove cylinder from gas locker and stand on ground.
- Fit plastic protecting cap to cylinder

With the full cylinder:
- Before placing cylinder in the cradle ensure that the tray is clean and free from any debris. Cleaning should be carried out only with warm soapy water.
- Place cylinder in cradle in gas locker.
- Remove plastic protector from cylinder
- Connect the gas hose.
- Connect retaining strap
- Turn on cylinder valve and then systematically relight appliances as required

Gas safety advice
LPG is not poisonous.
There is a danger if all air and oxygen were excluded. (Ventilation holes must be kept clear at all times and must not be obstructed).
The manufacturers have given LPG a smell in order to identify leaks.

Awning Space LPG Appliance Exhaust
There is no danger of pollution within an enclosed awning space from the exhaust of an LPG burning refrigerator that vents into it.

Gas Leaks
If a smell of gas becomes apparent, the supply should be turned off at the cylinder immediately.
Extinguish naked lights including cigarettes and pipes. Do not operate electrical switches. Open all doors and windows to disperse any gas escape.
Butane/Propane gas is heavier than air, any escaping gas will therefore collect at a low level. The strong unpleasant smell of gas will enable the general area of the leak to be detected. Check that the gas is not escaping from an unlit appliance. Never check for leaks with a naked flame, leak investigation should be carried out using a leak detector spray or soapy solution.
Do not operate any electrical apparatus whatsoever, especially light switches.
If the leak is not obvious, the caravan should be evacuated and a competent service engineer consulted.
Avoid naked lights when connecting or changing a cylinder. Ensure the gas valve is turned off.
Regularly inspect the flexible gas hoses for deterioration and renew as necessary with approved type (all hoses should be replaced before the expiry date marked on the hose or after a maximum of five years).
Remember the gas is heavier than air and therefore sinks to the lowest point.
Keep gas bottle containers outside (and protected against frost). If they must be kept inside make sure they are well away from heat.

Ventilation
All ventilation complies with EN 721 and vents should not be obstructed in any manner as this could lead to insufficient fresh air. In this case the confined atmosphere becomes depleted of oxygen which leads to the formation of the highly poisonous gas 'carbon monoxide'. Carbon Monoxide is odourless, colourless and tasteless and will rapidly cause unconsciousness and death with little or no warning prior to collapse.
There is no danger when adequate ventilation is provided.

Under no circumstances should the caravan's ventilation be blocked or obstructed in any way

High level ventilation is via the roof lights. The low level ventilation is via the vents in the floor at the front of the caravan living area directly behind the front bulkhead. With multiberth layouts the rear sleeping compartments have their own low level ventilation. Please consult your caravan retailer for its location.
The mesh screens fitted should be kept free of obstructions by dust, leaves, insects etc. Inspect regularly and use a brush and soapy water as necessary. It may be necessary to remove the weather shield located on the underside of the floor of the caravan to gain access for cleaning.
All roof-mounted flue installations should be inspected once a year throughout their length for corrosion. Flues should be replaced if any sign of perforation is found. Ensure that the replacement is of an approved type. Check that the external roof seal is seating correctly and the locknut is fully tightened.

Do not make any additional openings in the floor.
Never use portable cooking or heating equipment, other than electric heaters that are not of the direct radiant type in your caravan, as it is a fire and asphyxiation hazard.

Appliances such as cookers with naked flames should never be used for room heating.

No appliance shall be used inside when being connected to the external BBQ socket.

It is recommended that any elevating roofs be raised when the leisure accommodation vehicle is used for habitation purposes.

Gas BBQ point
The external gas BBQ point should be used as a connection outlet only and should not, as a matter of safety be used as a gas inlet.

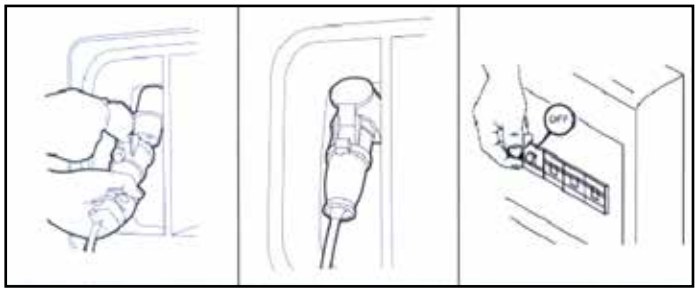
16. THE ELECTRICAL SYSTEM – 230 VOLT

As in the home, care must be exercised when handling mains electricity.
Your attention is drawn to the following notice as laid down by the Institute of Electrical Engineers.
Instructions for electricity supply - low voltage (230 v)

On arrival at caravan site

Before connecting the caravan installation to the main supply:
Check that the mains supply is suitable for your installation and appliances, i.e. whether it is a.c. or d.c. and whether it is at the correct voltage, frequency and polarity.
Check that your installations will be properly earthed. Never accept a supply from a socket outlet or plug having only two pins, or from a lighting outlet.
Check that any residual current device (earth leakage circuit breaker) in the mains supply to the caravan has been tested within the last month. After connection to site supply, test again.

- Make sure that the switch at the site supply point is off.
- Make sure that the caravan RCD unit is switched off.
- Remove any cover from the electricity inlet provided on the caravan, and insert the connector of the supply flexible cable.
- Remove any cover from the socket outlet provided at the site supply point, and connect the plug at the other end of the supply flexible cable to this. Switch on the main switch at the site supply point.
- Switch on the caravan RCD unit.



In case of doubt, consult the site owner or his agent.

On leaving caravan site

- First switch off the site supply.
- Switch off the caravan RCD unit.
- Then disconnect the pitch lead.

In case of difficulty consult an approved electrical installation contractor (who may be the local electricity board). It is dangerous to attempt modifications and additions yourself.

Lampholder-plugs (bayonet-cap adapters) should not in any circumstances be used.

- Replace the cover of the socket outlet at the site supply point. It is dangerous to leave the supply socket or supply flexible cable live.

Every 12 months, the caravan electrical installation should be inspected and tested and a report on its condition obtained as prescribed in the Regulations for Electrical Installations, published by the Institute of Electrical Engineers.

Generators

- Switch off all appliances, the miniature circuit breakers and the residual current device.
- Start the generator and allow to run for a few minutes to stabilise.
- Connect the caravan to the generator.
- Switch on 16 amp miniature circuit breaker.
- Switch on the residual current device.
- Switch on the fridge (230 volt phase) or plug in a 230v light to one of the 13amp sockets.

This is to provide a load on the generator and help remove any "spikes" in the supply which can damage the charger unit.

• Switch on the 5amp miniature circuit breaker and any other appliances you require.

It is always advisable to have at least one other mains appliance switched on with the charger unit to minimise the chance of damage to it.

Do not connect the 12 volt output of the generator to the battery terminals. The AC ripple must not exceed 10%.

Overseas connections

Connection to a mains voltage supply overseas requires particular attention.

Care must be taken when connecting supplies abroad since the supplies can be of reverse polarity. The significance of reverse polarity is that when equipment is switched off it may not be electrically isolated.
The only certain way of making equipment safe is to unplug it.
A means of checking the polarity of the mains supply when overseas is useful.
There are available several proprietary makes of equipment for the purpose (e.g. Martindale tester unit).
If it can be achieved, it is preferable to connect

live to live, and neutral to neutral to maintain full electrical protection.
Check all caravan equipment is set-up to accept the site supply before actually switching on.

Mains unit
The mains unit replaces the conventional fuse box. Similar, but larger units are often fitted in newer houses.
The unit gives overload and earth leakage protection for the 230v electrical supply in your caravan.
For normal operation all switches on the unit need to be in the ON position. The switches on the left of the unit are known as M.C.B.'s (miniature circuit breakers).
These take the place of the conventional fuse but are more convenient.
In the event of a fault the M.C.B. 'trips' i.e. automatically moves to the OFF position.
After elimination of the fault the M.C.B. can be re-set by switching to the ON position. (Against the spring pressure in an upwards direction).
If an earth fault develops or a person was to touch a live piece of equipment the leakage of current to earth should immediately operate the RCD (residual current device) and 'trip' the main switch, to the OFF position.
This switch is only re-settable after elimination of the fault.
To re-set, operate the switch as for M.C.B's.
Every time you connect to a site supply the RCD should be checked by operating the test button marked 'T'. The unit should immediately switch to the OFF position. If the unit does not switch off then a qualified electrician should be consulted.
If the unit does switch off, the test is complete and the switch can be reset restoring the supply back to normal.

Having too many appliances switched on at the same time will trip the MCB. This is a safety measure.

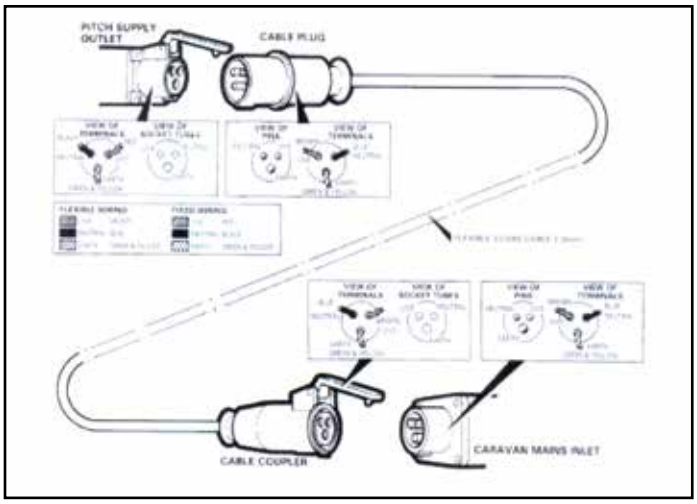
It is essential that connections are made exactly as shown. If terminal markings are not in accordance with the diagram they must be ignored. If in doubt consult a qualified electrician.

Always disconnect the electrical connector between the towing vehicle and the caravan before connecting a 230v supply to the caravan and before charging the caravan battery by any other means.
It is possible that all of the 230v mains electrical equipment may not be able to be operated simultaneously. A typical UK caravan park mains hook up point provides a maximum output of 16 amps and on some continental sites the available output may be as low as 5 amps. If your loading exceeds the site supply it may trip the parks circuit breaker. Please check the available mains output with your site operator.

The following items need to be added together if used simultaneously.

230V Mains equipment typical consumption figures:
Fridge ..... 0.5 amps
Colour TV .....2.5 amps
Charger .....1.0 amps
Microwave .....10 amps
Air conditioning..... 4 amps
Blown/convection air heating .....8.7 amps

17. THE ELECTRICAL SYSTEM 12 VOLT.



Your caravan is fitted with a 12 volt charger as standard. This converts the 230 volt AC supply into 12 volt DC. This enables the 12 volt equipment in the caravan to function and charges the caravan leisure battery. A fully charged caravan leisure battery should read 13.8 volts on the voltmeter mounted in the control panel.

The charger is capable of charging leisure batteries and will not overcharge.

The 12 volt system is designed to operate with a leisure battery in circuit and should not be turned on without one connected. The 12 volt supply to the caravan services can be isolated via the 12 volt on/off switch on the control panel.

Auxiliary Battery storage/mains inlet
The battery and 230V mains inlet are located in a special locker mounted in the side of the caravan. The door frame has a cable recess allowing the door to be locked when the mains cable is connected.

This locker will accommodate a battery up to 110 amperes/hours capacity.

The battery must be placed in the tray provided in the battery storage compartment, and must be used at all

times.

A battery of not less than 40-50 amperes/hours capacity is recommended, crocodile clips should never be used to connect the battery, and terminals should be shrouded. Always switch off all appliances and lamps before disconnecting the auxiliary battery.
The battery should be secured to prevent movement when towing.
Metal objects should not be stored in the battery box.
Where a 12V extension is used between the towcar and caravan, this should not exceed 5 metres in length - minimum cable size 2.5mm to minimise voltage drop.
DIY modifications/additions to the wiring systems are not recommended, always consult your Retailer who will be pleased to carry out such work.
Do not continuously charge the battery when caravan is not in use.

Switch off all appliances before disconnecting battery.

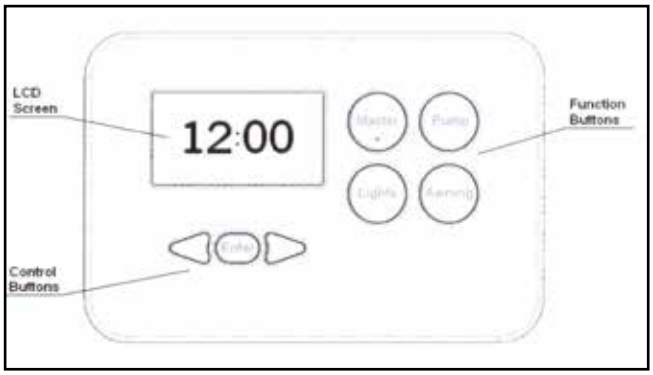
Negative connections should always be disconnected first and reconnected last.

Car type battery chargers are not suitable for charging a leisure battery and may damage it.

When not using Pegasus models always ensure that the fridge control knob is turned to the 'off' position. Failure to do this will result in a flat battery due to 12V power drain from the fridge circuit relays.

18. THE DIGITAL CONTROL PANEL
BCA-DCP-1200

Overview
The BCA-DCP-1200 is the central control unit for your caravan. It allows you to easily control the electrical system, saving you power, and providing more useful functionality.



- The LCD screen provides clear feedback to display large menus and information.
- The control buttons offer an easy way to select menus and adjust user settings.
- The Function Buttons give quick access to regularly used tasks.

Main Function Buttons
Master Switch

Pressing the Master Switch (Master) will switch power to all unessential accessories in your caravan. The alarm, radio, awning light and fridge will still receive power when the master is off.

Lights Switch

Pressing the Lights Switch (Lights) will switch power to all the lights circuits in the caravan. If the master switch is off then this button will not function.

Pump Switch

Pressing the Pump Switch (Pump) will switch power to the water pump. If the master switch is off then this button will not function. If the water pump is running a warning icon will appear in the clock menu.

Awning Switch

Pressing the Awning Switch (Awning) will switch power to the awning light. The awning light works independently from the master switch.

Menu Details
The available menu's are controlled by the 3 control buttons. The left and right buttons cycle through the available menus. Pressing the enter button (Enter) accesses any extra options that the current menu holds. Only menus relevant to your caravan will be displayed.

Clock
The clock menu is the default menu. If the control panel is inactive the screen will automatically revert here before going on standby.

Setting the clock:
If the back light is off, bring the device out of standby by pressing the enter button (Enter).
On the clock menu, hold Enter (Enter) for 3 seconds until the hours begin to flash.
Press Left or Right until the desired hour is reached.
Press Enter (Enter). The minutes will begin to flash.
Use Left and right until the desired minute is reached.
Press Enter (Enter) to Set Time, seconds will automatically be reset to 00.

Battery Voltage

The Battery Voltage menu displays the voltage of the leisure battery.
An estimate of your batteries remaining charge can be seen by Pressing Enter (Enter) on this menu and selecting the % unit. Based on standard battery voltages, if your battery measures over 12.7v it is 100% charged. Below 12v is 0% charged.
You can return to displaying in volts by pressing enter (Enter) and selecting the V unit.
If your battery voltage drops below 12.2v (25%) a warning icon will display on the clock menu.
While connected to a 230v supply the icon will display on the clock menu. This indicates the battery is charging. The battery voltage may read much higher than normal if it is recharging.

Temperature

The temperature inside your living space can be viewed using the Internal Temperature menu. You can change between degrees Celsius and Degrees Fahrenheit by pressing enter (Enter) and selecting Left for °C or Right for °F.

User Settings Menu

The user settings menu allows access to many basic functions such as screen contrast and standby settings. Scroll left or right until the user settings menu is displayed, then press enter. You can now scroll up or down the available settings with the left and right buttons. If you want to edit a setting, press enter when it is highlighted and then use left or right to edit. Press enter when complete. To Leave the user settings menu, scroll to the exit to main menu item and press enter.

Warning Icons

There are a number of warning icons that display above the time on the clock menu if certain situations occur. Here is a summary of what they mean.

Icon	Description
	The water pump is currently running
	The leisure battery voltage is below 12.2v
	The Battery is being recharged

19. ALDE HEATING SYSTEM

Operating Instructions
Please read these instructions carefully before using the boiler. These instructions are approved for The Alde Compact 3010 boiler fitted in caravans, motor caravans and buildings in accordance with CE no.EMC e5 02 0138, 845 BP-0003. Installation and repairs may only be carried out by a professional. National regulations must be adhered to.

Boiler Design
The boiler consists of three eccentrically-fitted cylinders (heat exchanger, water jacket for the heating system and, outermost, water jacket for hot water). The two outer pipes, and their ends and connectors are made of stainless steel, while the heat exchanger is made of aluminium. The heat exchanger is divided into two semi-circles. The burner is located in the upper half, being the combustion chamber, and the combustion gases are expelled through the lower half. The burner unit is fitted on the end of the heat exchanger. It consists of a combustion fan, burner, solenoid valve and intake/exhaust connections. Two heating cartridges are fitted to the water jacket of the heating system. Maximum output is 3.15kW, depending on model.

Description of Functions
Using LPG
When LPG operation is selected on the control panel, the combustion fan starts. When the fan speed is correct, it signals the circuit board that the boiler can be it. The circuit board sends ignition spark to the spark plug at the same time as it sends electricity to the solenoid valve, which opens to allow gas in. The burner ignites, and a sensor transmits a signal back to the circuit board that the boiler is lit, and the ignition spark stops. The burner keeps burning until the boiler thermostat or the room thermostat reaches the set temperature reading. Should the boiler go out for any reason, the sensor is activated and a new attempt is made to start the boiler (in about 10 seconds). 230 volt heating will not operate unless the icon showing 230 volt power supply is shown on the control panel.

Using the heating cartridge
Electrical operation is selected on the control panel, the 12-volt relays on the circuit board trip, allowing the 230 volt supply to reach the electrical elements. The heating cartridge is controlled in the same way as the gas boiler.

Warm Water
When only warm water is required, for example during the summer, no settings need to be made; the boiler will look after this function automatically.

The pump will only start when the temperature in the vehicle is lower than the temperature (see control panel.)

Important information.

- The boiler must not be started if there is no glycol in the system.
- The LPG boiler and heating cartridge may be operated in parallel.
- The heating system may be heated up without the warm water heater being filled with fresh water.
- Always switch off the main isolator for the boiler when the vehicle is not being used.
- Always drain the warm water heater of fresh water if there is a risk of frost.

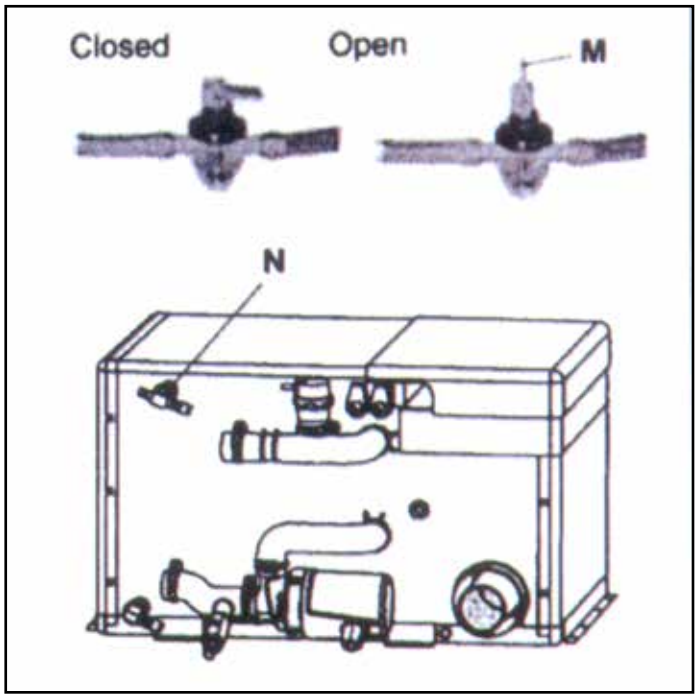
The LPG boiler must not be operated when refuelling the vehicle.
When washing the vehicle, take care not to get water in the roof vent.

The Domestic Hot Water Heater
The boiler is fitted with a built-in warm water heater with a volume of approx. 8.5- litres fresh water. The warm water heater can produce around 12 litres of 40°C water per half hour (at a cold water temperature of 10°C). If the heating cartridges are used instead of gas for heating the boiler, the capacity is slightly reduced. Always rinse out the heater before it is used, particularly if it has not been in operation for some time.

The hot water is not intended for drinking or cooking. When the heater is in continuous use, it should be emptied approx, once a month, to ensure that a new air cushion is formed in the heater. The air cushion is essential for absorbing pressure surges in the heater. For emptying specially-adapted boilers, as well as any other fresh water systems in the vehicle, please refer to the manufacturer's instructions.

The warm water should always be drained of fresh water when there is a risk of frost and when the caravan is not in use. The warranty does not cover frost damage.

Draining the heater using the combined safety/ drain valve:
- Switch off the freshwater pump.
- Open all water taps
- Then open the safety/drain valve by raising the yellow lever (M) to a vertical position.
- The heater will now drain directly below the vehicle through the safety/ drain valve hose. Check that all the water is emptied out (about 7-10 litres.) Leave the valve in the open position until the next time the heater is used.



Check that the automatic check valve (N) is open and is allowing air to enter the heater when it is being drained, and that the hose (O) is not blocked.

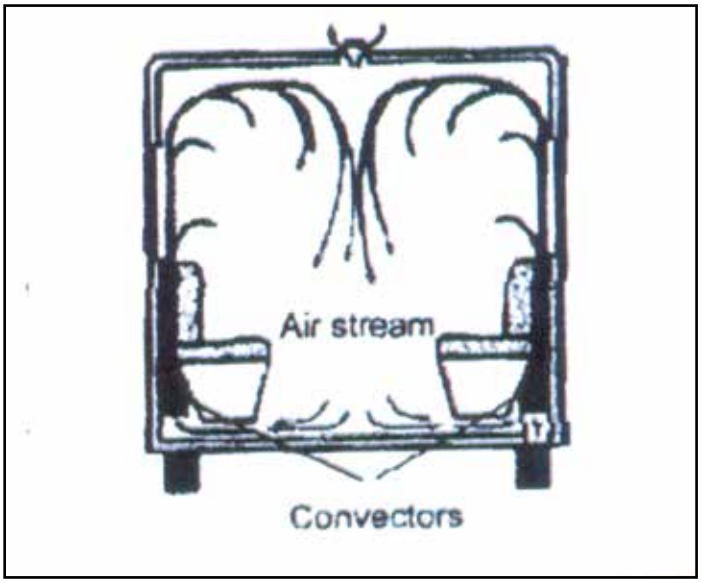
The Heating Cartridges
All Compact 3010s are fitted with two 230V heating cartridges with a maximum output of 3150 W. Select the heating cartridge output on the control panel. Always check that the input fuse of the vehicle has the correct amperage in relation to the selected output. Note these ratings are for the boiler only. 1050 W requires a 6 amp fuse. 2100 W requires a 10 amp fuse. 3150 W requires a 16 amp fuse.

The Circulation Pump
A circulation pump is required to circulate the heated glycol fluid. A 12V circulation pump is fitted in the expansion tank. An optional 230V circulation pump can be fitted on the boiler. Selection of the circulation pump, i.e. switches it on or off according to the amount of heat required. For normal operation pump speed 1 or 2 should be used. Higher pump speeds will cause premature failure. Speed setting 4 or 5 should only be used for short periods (2-5 minutes) to bleed the system after filling.

System Temperature
The boiler is set to a system temperature of 80°C, i.e. the temperature of the glycol fluid as it circulates in the heating system.

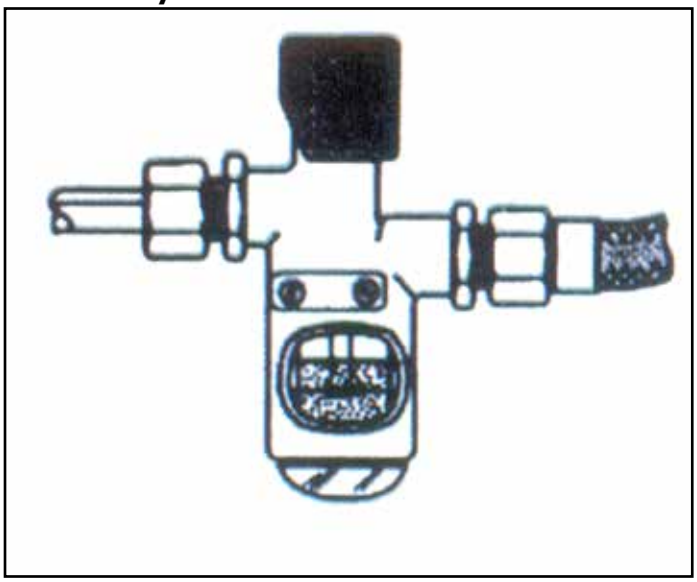
Air Circulation
In order to achieve the best possible result from the principle of connected heat, it is important to allow air to circulate freely under bunks, and behind backrests and wall-mounted cabinets. It is important that cushions or blankets do not interrupt the flow of air behind backrests and wall cabinets.

Maintaining the Heating System
Winter Camping



While camping during the winter, ensure that the flue is kept clear of snow and ice, since the inlet air to the LPG boiler enters through the flue. Do not start the LPG boiler until the flue is completely free of snow.

The LPG System

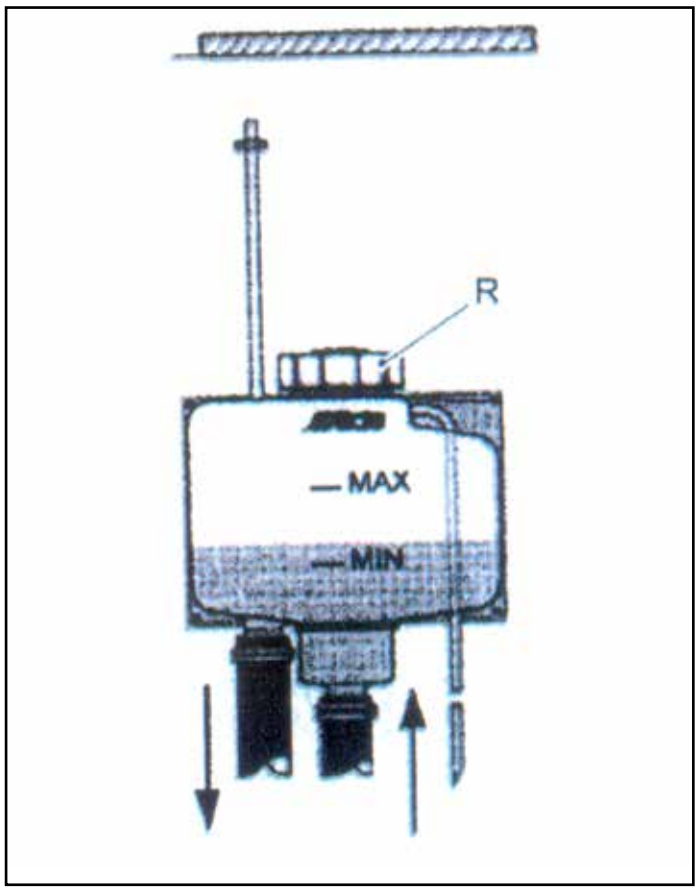


The LPG system should be checked regularly by a professional, who will ensure that there are no leaks from connections or hoses. LPG hoses should be changed according to national regulations, maximum of five years. Check the date stamp on the hose. Hose has a propensity to dry out and crack. To increase safety, we recommend fitting an Alde leak gauge, type 4071, as close as possible to the pressure reduction valve.

The Heating System
Regularly check the heating systems' fluid level

in the expansion tank. The level should be about 1cm above the minimum indicator in a cold tank. The heating system should be filled with a mixture of water and glycol. For preference, use high quality ready mixed glycol (with inhibitor) intended for use in aluminium heating systems. If using concentrated glycol, the mixture should consist of 60% water and 40% glycol. If the heating system will be exposed to temperatures below -25°, the glycol content must be increased, but not more than 50%. Any vessels used for the liquid must be spotlessly clean, and the pipes in the heating system. The glycol mixture should be changed every second year, since its ability to protect against corrosion, for example, will deteriorate. The glycol content should be checked before topping up with new liquid. This will ensure that the concentration of glycol in the mixture is not too high. If the fluid level in the expansion tank falls for reasons other than evaporation, please check all joints, drain cocks and bleeder screws to ensure that they are not leaking. If the glycol- water mixture leaks out, rinse with water and wipe out. Never allow the heating system to stand empty of glycol.

Filling the System with Glycol Fluid.



For manual filling, unfasten the expansion tank nut (R) and slowly pour the glycol mixture into the tank. Bleed the system and top up with more liquid if the level has fallen after bleeding. Bleed a newly- filled system regularly during the first days the heating system is in operation.

Bleeding the System

Depending on how the pipes have been fitted, air pockets may form when the system is filled only with glycol fluid. A sign that here is air trapped in the system is that the heat released into the pipes only extends a metre or so from the boiler even though the circulation pump is operating. In newly filled systems, small air bubbles can form in the expansion tank, creating a murmuring sound. If the circulation pump is stopped after a few seconds, the bubbles will disappear.

Bleeding:

If a bleeder screw is fitted to the outgoing pipe, open this bleeder screw and leave it open until it starts to discharge water. Start the LPG boiler. The circulation pump should be switched off. To help the system to bleed quicker turn the pump up to 5.
Open the remaining bleeder screws in the system. Leave the bleeder screws open until they start discharging fluid, and then close them. Start the circulation pump and let it run for a while. Check that the pipes and radiators around the vehicle are heating up.

If they fail to heat up try the following:
Single axle caravan: Stop the circulation pump. Lower the front of the caravan as far as possible. Leave it in this position for a few minutes to allow the air to travel upwards in the system. Open the bleeder screws at the highest point. Leave it open until it discharges glycol fluid. Raise the front of the caravan as high as possible and repeat the procedure in this position. Then position the caravan horizontally and start up the circulation pump. Check that the pipes and radiators around the vehicle are heating up.
Twin axle caravan: The easiest way to bleed the heating system is to place the vehicle on a sloping surface or to raise one end of the vehicle using a jack. Bleed the system as described above.

Troubleshooting:

The Boiler Does Not Start

- No LPG? Incorrect type for the conditions.
- Is the main tap fully open?
- If the boiler has not been operated for some time, or if the gas cylinder has been changed, it may take longer than normal to light the boiler.
- Check that the boiler is connected to the electricity supply (> 11V).
- Check that the fuse (T) for the boiler is intact.
- Check whether the electric connections to the boiler are securely in position.
- If none of the above helps, contact a service workshop.

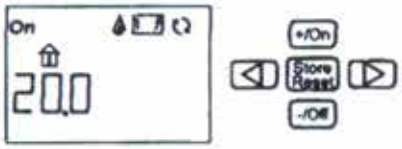
0. The standby and on-position of the control panel

In standby, the functions which are activated in the boiler are shown, and there is no background lighting in the display. The control panel automatically goes to standby from the on position after two minutes if no buttons are pushed or if you step to standby (left of On/Off) with the arrow keys.

Start the on position by pressing any button. The background lighting comes on (blue light) and a function that can be set flashes. Select a function that can be set with the arrow keys. The settings are automatically saved.

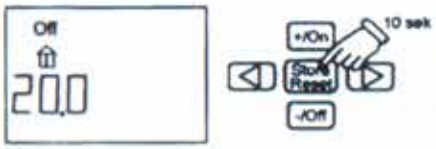
1 The control panel is on standby and the heater is switched off.

2 The control panel is on standby and the heater is operating.

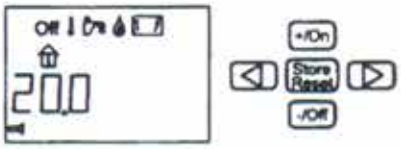


1. Resetting the system

1 Press the Store/Reset button for 10 seconds. The control panel is reset to the factory setting.



2 The main breaker to the control panel is in the "Off" position, Gas is on, Electricity at 1kW and 22°C.



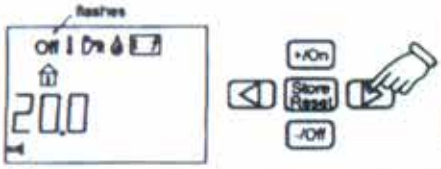
The pump is in automatic position. The lower menu row is not lit up.

2. Start the heater

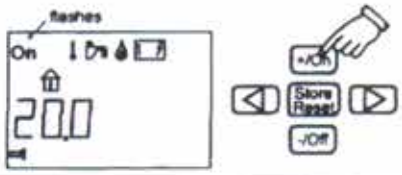
Start the heating in the caravan with the settings last used.

If you break the power to the heater, the settings which were last used will automatically be used when the power comes back on.

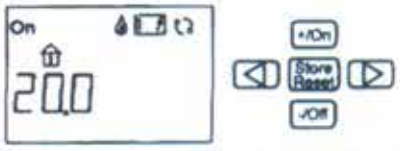
1 Press the button with the arrow until "Off" (main breaker) in the display flashes.



2 Press the +/On button."On" (main breaker) in the display flashes.

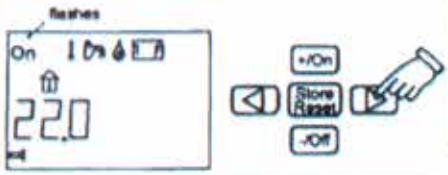


3 The settings are ready."On" (main breaker) is shown in the display when the panel returns to standby.

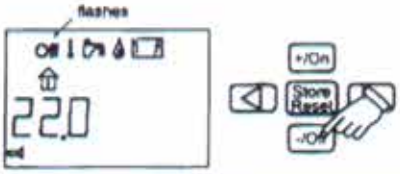


3. Switch off the heater

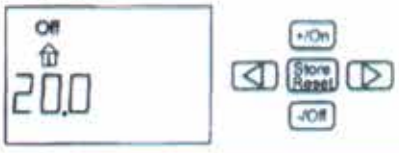
1 Press the button with the arrow until "On" (main breaker) in the display flashes.



2 Press the -/Off button. "Off" (main breaker) in the display flashes.



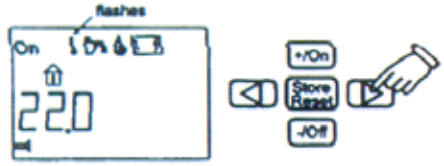
3 The settings are ready. "Off" (main breaker) is shown in the display when the panel returns to standby.



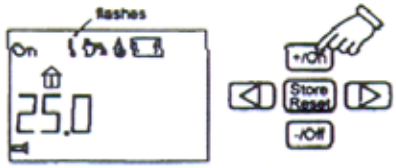
4. Set the temperature you want in the vehicle

The temperature of the vehicle can be set from +5°C to +30°C at intervals of 0.5°C.

1 Press the button with the arrow until the symbol for selecting temperature flashes.
The temperature shown is the temperature which is set at present (in this case 22.0°C).



2 Increase the temperature by pressing the +/On button. Lower the temperature by pressing the -/Off button. The diagram shows that we have set the temperature at 25.0°C.



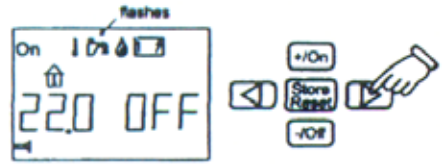
3 The settings are complete and the boiler is working at the set temperature.

5. Warm water

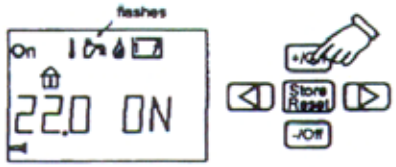
If you need more warm water you can increase the quantity temporarily for 30 minutes by increasing the water temperature from 50°C to 65°C.

When 30 minutes have elapsed, the water temperature returns to 50°C and the symbol goes out. When you have selected more warm water, the circulation pump stops.

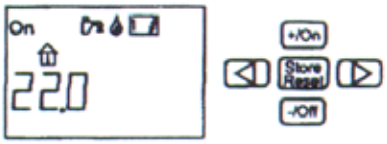
1 Press the button with the arrow until the symbol for selecting warm water flashes. The "OFF" text is shown next to the temperature on the display.



2 Switch the warm water on by pressing the +/ON button.
The "ON" text is shown next to the temperature on the display.

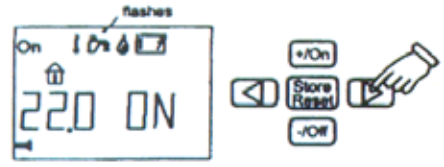


3 The warm water symbol is displayed when the panel returns to standby.

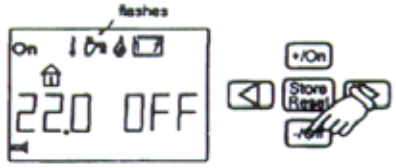


If you want you can switch off more warm water before 30 minutes have elapsed.

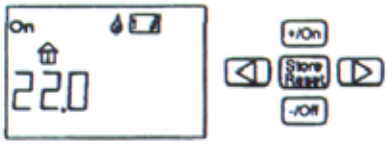
1 Press the button with the arrow until the warm water symbol flashes. The "ON" text is shown next to the temperature on the display.



2 Switch off the warm water by pressing the -/Off button.
The "OFF" text is shown next to the temperature on the display.



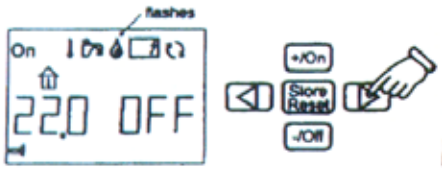
3 The warm water symbol goes out when the panel returns to standby.



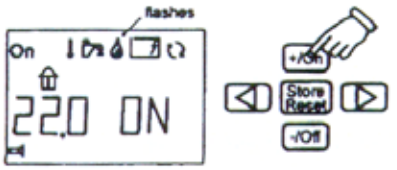
6. Heating with gas

Do as follows to activate heating with gas.

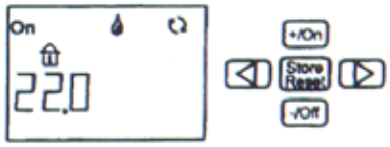
1 Press the button with the arrow until the gas heating symbol flashes. The "OFF" text is shown next to the temperature on the display.



2 Select gas heating by pressing the +/On button. The "ON" text is shown next to the temperature on the display.

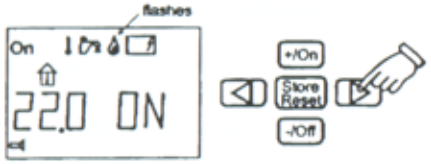


3 The gas heating symbol is displayed when the panel returns to standby.

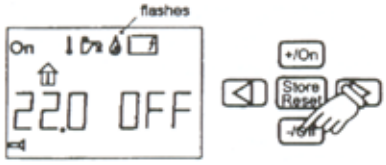


Do as follows to switch off the gas heating.

1 Press the button with the arrow until the gas heating symbol flashes. The "ON" text is shown next to the temperature on the display.



2 Switch off the gas heating by pressing the -/Off button. The "OFF" text is shown next to the temperature on the display.

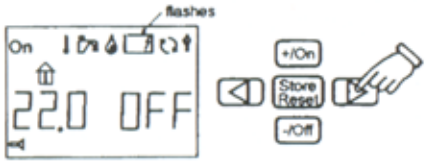


3 The gas heating symbol goes out when the panel returns to standby.

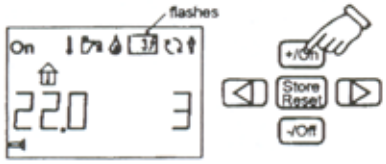
7. Heating with electricity

To activate heating with electricity. The greater the power the more rapid the heating will be.

1 Press the button with the arrow until the electrical heating symbol flashes. The "OFF" text is shown next to the temperature on the display.



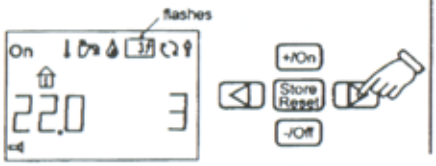
2 Select power (1kW, 2kW or 3kW) with the +/On or -/Off buttons. The diagram shows that 3kW power has been selected (some boilers are only equipped with 1-2kW).



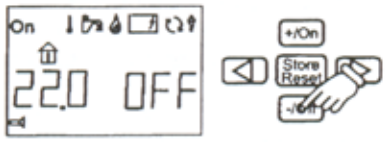
3 The electrical heating symbol is shown when the panel returns to standby.

Do as follows to switch off heating with electricity.

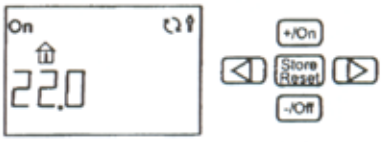
1 Press the button with the arrow until the electrical heating symbol flashes.



2 Switch off the electrical heating by pressing the -/Off button until all power steps have gone out. The "OFF" text is shown next to the temperature on the display.

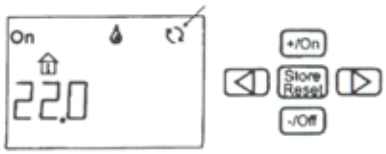


3 The electrical heating symbol goes out when the panel returns to standby.



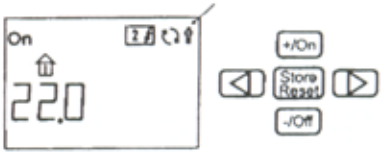
8. Circulation pump

This symbol is displayed when the circulation pump is operating (12V-pump or 230V-pump).
When heating is required in the vehicle, the pump starts automatically. The boiler selects the 230V pump if one is installed in the system. When the 230V is disconnected from the vehicle the 12V pump is automatically selected. The symbol will light up even if the pump is defective.



9. 230V connection

This symbol lights up when 230V is connected to the vehicle.



10. Temperature

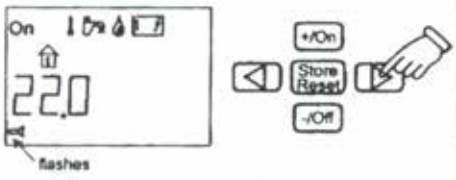
This symbol shows the indoor temperature in the caravan in intervals of 0.5°C.

This symbol shows the temperature outside the caravan in intervals of 1°C. To use this function an outdoor temperature sensor must be installed.

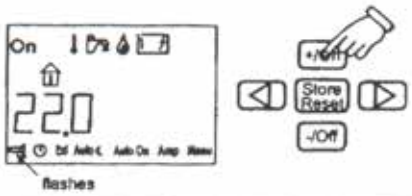
11. Working with the lower menu row

The lower menu row can be used for such things as setting the clock, external start, night temperature, automatic start of the heater. To use the lower menu row you must activate it by doing as follows:

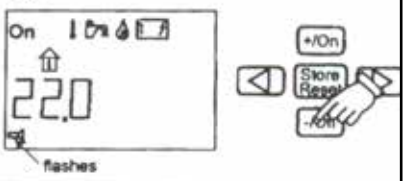
1 Press the button with the arrow until the symbol for the lower menu row flashes.



2 Light up the menu row by pressing the +/On button. The lower row with symbols lights up.



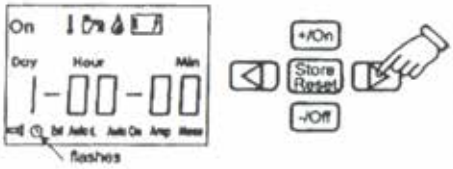
3 To switch off the lower menu row, press the -/Off button when the symbol flashes. Activated functions will be displayed even if the lower menu row is switched off.



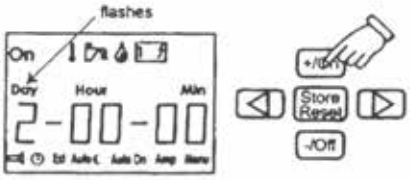
12. Clock

To set the clock, first light up the lower row of functions (see item 11).

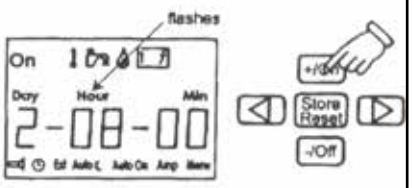
1 Press the button with the arrow until the clock symbol flashes.



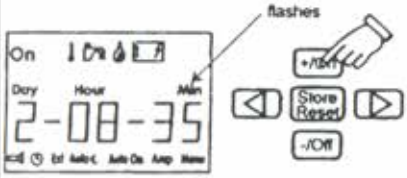
2 Press the +/On button. Day flashes. Use +/On or -/Off to set the weekday.



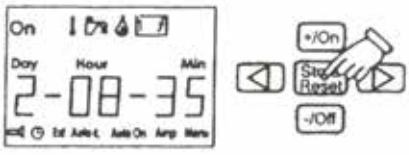
3 Step forward with the arrow key until the time is displayed. Hour flashes. Use +/On or -/Off to set the full hour.



4 Then step forward with the arrow key until the minutes are displayed. Min flashes. Use +/On and -/Off to set the minutes.



5 Press Store and the time you have set is stored. The example shows Tuesday, 08.35.

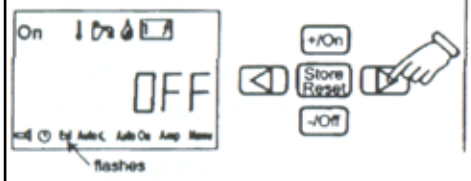


If the power to the panel is broken and the battery backup is not connected, the clock must be set again.
Weekday: 1-7
1=Monday
7= Sunday
Hours: 0-23
Minutes: 0-59

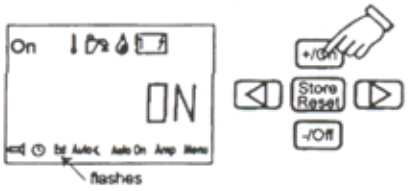
13. External start Ext

This function is used if you wish to start the heater in the caravan from outside. To use this function it is necessary to have an installation for external start (see vehicle manual). To activate external start, first light up the lower menu row of functions (see item 11).

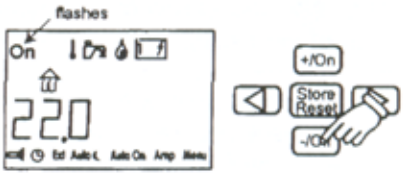
1 Press the button with the arrow until the "Ext" symbol flashes. The "OFF" text is shown next to the temperature in the display.



2 Press the +/On button. The "ON" text is shown next to the temperature in the display.



3 Press the button with the arrow until the On symbol (main breaker) flashes. Press -/Off.



4 Off and Ext are shown in the display when the panel returns to standby. External start is activated.

When external start is activated the heater will start with the latest settings and "ON" (main breaker) comes on. If 12V is not connected to the heater, the display will not light up until 12V is connected. The external start function is still activated.

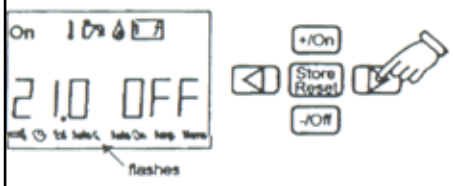
To switch off external start, go to the "Ext" symbol in the on position and press the -/Off button.

14. Automatic temperature change Auto

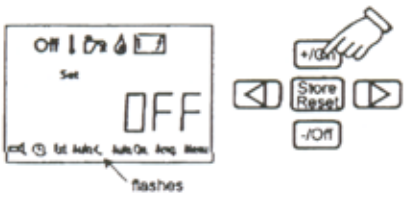
This function is used when you wish to set automatic temperature change, for example, during the night.

In order to activate automatic temperature change, first light up the lower row of functions (see item 11).

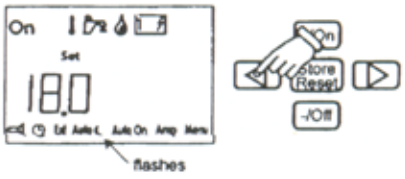
1 Press the button with the arrow until the symbol for automatic temperature change flashes. The temperature and the "OFF" text are shown on the display.



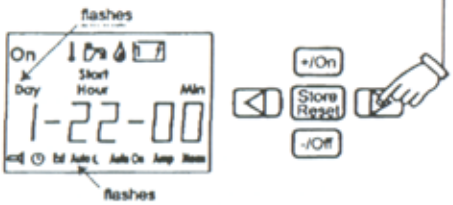
2 Press the +/On button. Set flashes and the OFF text is shown in the display. Press +/On to activate the function. "ON" is shown in the display.



3 Press the left arrow key. The required temperature is displayed. Then adjust the temperature by pressing the +/On or -/Off button.



4 Then press Store and the start time is displayed. Adjust the start time (the same procedure as in 12) and press the "Store" button.



5 Now adjust the stop time and press "Store" again. The text field shows the required temperature and ON.

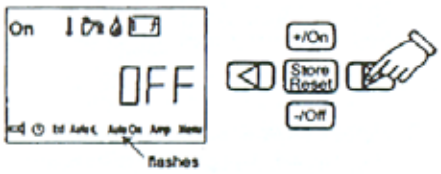
6 If you want the temperature change to be repeated daily, select day 0.
Auto ☾ is shown in the display when the panel returns to standby.

15. Starting the heater automatically AutoOn

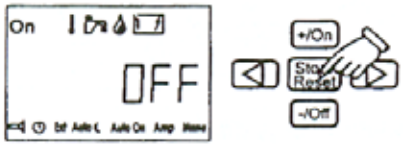
This function is used if you want the heater to start automatically at a later time. The heater works for 24 hours and then stops.
Automatic start is repeated the following week as long as the function is activated.

To activate the function you must first light up the lower row of functions (see item 11).
The function controls the panel's main breaker.

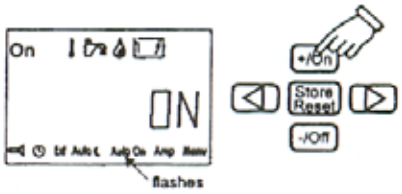
1 Press the button with the arrow until the AutoOn symbol flashes. "OFF" is shown in the display. To activate AutoOn, press the +/On button or the -/Off button to close the function.



2 The start time will be displayed. Set the time in accordance with item 12 and press "Store" to store the settings. "OFF" is shown in the display.



3 Press the +/On button. On is shown in the display and AutoOn flashes. Set the panel's main breaker to OFF.



When you get to the vehicle and AutoOn is activated, de-activate AutoOn so that the heater does not stop after 24 hours (the boiler cannot be switched off when AutoOn is activated).

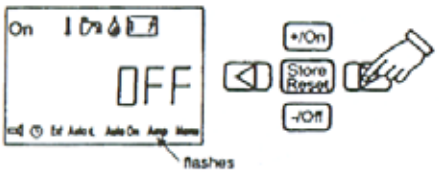
You can then step back with the left-hand button in the settings and press Store in all positions.

16. Load monitor Amp

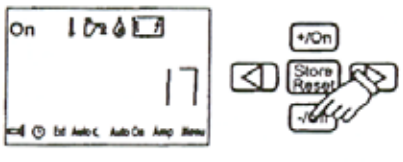
This function is used if you do not want the 230V fuses to become overloaded. If the vehicle's total current consumption exceeds the set value, the boiler's electrical power will be automatically reduced.
On account of voltage variations and tolerances, one can select various control levels (for example, for 6A fuse, one can choose either 5,6,7 Amp setting).
If the fuse does not hold, select a lower set value.

The function is disconnected in the factory setting.
To activate the function, you must first light up the lower row of functions (see item 11).

1 Press the button with the arrow until the Amp symbol flashes. "OFF" is shown in the display.



2 Press the -/Off button to activate and set the function. The following values can be set with +/On or -/Off buttons, 5,6,7,9,10,11,15,16,17.



3 Amp is shown in the display when the panel returns to standby.

17. Menu Menu

In the "Menu" setting one can activate a number of functions. To activate the function you must first light up the lower row of functions (see item 11).

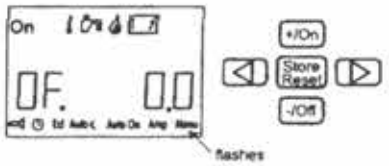
To step between the various functions, use the arrow keys.

OFFSET (Temperature adjustment)

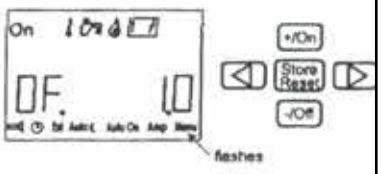
With this function you can calibrate the temperature on the panel if you notice that the temperature (the stabilised room temperature) does not correspond with the temperature shown on the panel.

1 Press the button with the arrow until the Menu symbol flashes. Press +On.

2 When OF is displayed, adjust the temperature displacement with +/On or -/Off (+/-5°C in intervals of 0.5°C).



3 Press Store to leave the OFFSET function.

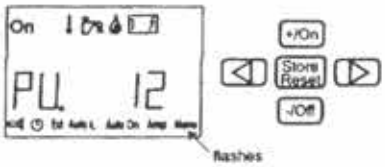


PUMP 12V/PUMP AU.

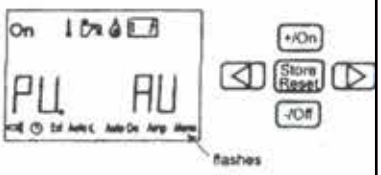
The12V pump is used in the PU 12 setting even if 230V is connected. In the PU AU position, the 230V pump works, and when 230V is disconnected, the 12V pump *starts. The PU AU function is* activated in the factory setting.

1 Press the button with the arrow until the Menu symbol flashes. Press +On.

2 When OF is displayed, step with the arrow key until PU AU is displayed. Press +/On and PU 12 is displayed.



3 Press -/Off and PU AU is displayed. Press Store to leave the pump function.

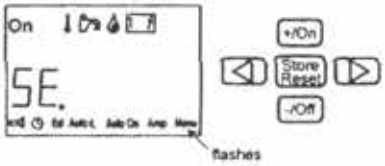


SERVICE

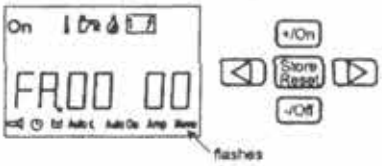
With this function one can see what values* from the heater are displayed. The values are updated once per second.

1 Press the button with the arrow until the Menu symbol flashes. Press +On.

2 *When OF is displayed, step with* the arrow key until SE is displayed. Press +/On to see the various values (-/Off can also be used).



3 To leave Service, press Store.



* The values shown during service are:

FA (revolutions): The speed of the fan divided by 2.

SH (temp): Warm water temperature.

HE (temp): Operating temperature.

OH: If the overheating protection has been tripped On or alternatively Off.

HS (X): Software version in the heater.

PS (X): Software version on the panel.

I: Amp. Guideline value shown in steps of 0.5 A.

WI: Window breaker on-off.

ES: External start on-off.

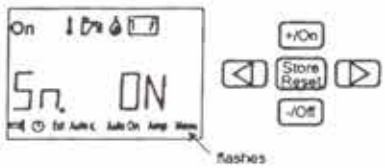
10-RS: Heater information, only for ALDE.

Button sound

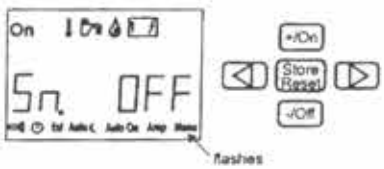
With this function you can connect or disconnect the button sound to the buttons. The button sound is disconnected in the factory setting.

1 Press the button with the arrow until the Menu symbol flashes. Press +On.

2 When OF is displayed, step with the arrow key until Sn is displayed. Press +/On and the button sound is connected.



3 Press -/Off to disconnect the button sound. Then press Store to leave the button sound function.

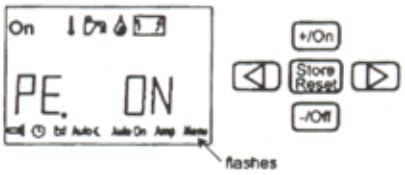


Constant pump operation

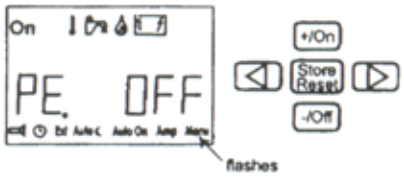
With this function, selected pump is in constant operation. The function is disconnected in the factory setting. This function limits the hot water supply, particularly when there is little need of heat.

1 Press the button with the arrow until the Menu symbol flashes. Press +On.

2 When OF is displayed, step with the arrow key until PE is displayed. Press +/On and constant pump operation is connected.



3 Press -/Off to disconnect constan pump operation. Then press Store to leave the pump operatio function.

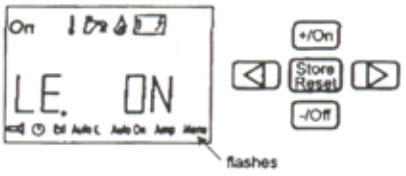


Automatic temp. increase

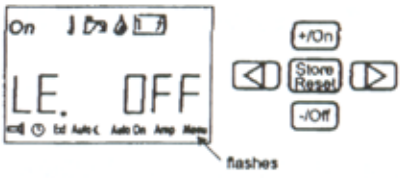
At 02.00 hours (night time) the boiler starts and works in accordance with Warm water (item 5) if the clock is set.
The reason for this is to reduce the risk of legionella.
The function is disconnected in the factory setting.

1 Press the button with the arrow until the Menu symbol flashes. Press +On.

2 When OF is displayed, step with the arrow key until LE is displayed. Press +/On and legionella is connected.



3 Press -/Off to disconnect legionella. Then press Store to leave the legionella function.



18. Fault messages

When a fault occurs in the system the reason is shown in the display.

LOW BAT: If the vehicle has a battery voltage of less than 10.5V, the heater stops. The heater is automatically reset when the voltage comes up to 11V.

FAN: Faulty fan speed. Automatic resetting after 5 minutes.

GAS OUT: Gas finished. Resetting by switching off and restarting the boiler in accordance with item 1.

OHEAT 1: Overheating protection tripped. To re-set, disconnect 12V from the boiler and connect again.

OHEAT 2: Thermostat tripped. To re-set, disconnect 12V from the boiler and connect again.

WINDO: Window open, the boiler stops for gas. Gas operation in the boiler starts when the window is closed. Electrical operation functions. Check the vehicle instructions to see whether this function is installed.

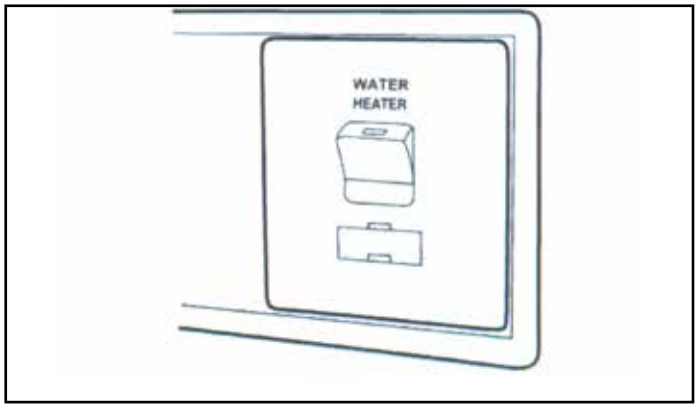
SERIAL: There is a connection fault between boiler and panel. Normally, this is a mechanical fault in the connection between the heater and panel. To re-set, break the main current and then start again.

19. Emergency start

- Disconnect 12V and the cable to the panel on the heater.
- Connect a cable between 2 and 9 in the contact device (on the heater).
- Connect 12V to the heater.

Now the heater starts with gas and 1kW. (Regulation of room temperature does not function, constant pump operation).

Electrical Operating Instructions (230v)
Ensure that the water heater is full then switch the isolation switch on. (Usually mounted on the bunk face adjacent to the gas control switch.)



The water temperature cannot be selected; temperature is automatically limited to 70°C. For a faster heating up the appliance can be simultaneously operated with gas and electrical power.

General Safety Notes

In the event of leaks in the gas systems or if there is a smell of gas:

Extinguish all naked flames.
Do not smoke.
Switch off appliance and gas cylinder.
Open the windows
Do not operate any electrical switches
Have the entire system checked by an expert.

Repair Jobs are only to be carried out by an expert.
The Following would invalidate the guarantee:
- Any alteration to the appliance (including cowl.)
- The use of non-Alde spare parts/accessories
- Non observance of the operating instructions

The operating pressure for the gas supply is 30mbar (or for 28mbar butane/ 37 mbar propane) and must correspond to the operating pressure of the appliance (see name plate.)
Do not operate the water heater when refuelling the vehicle and when in the fuel station.
During initial operation of a brand new appliance (or after it has not been used for some time), a certain amount of fumes and a slight smell may be noticed for a short time. Remedial action here is to immediately run the heater at maximum output and to ensure adequate room ventilation.
If the burner makes an unusual noise or if the flame lifts off, it is likely that the regulator is faulty and it is essential to have it checked.

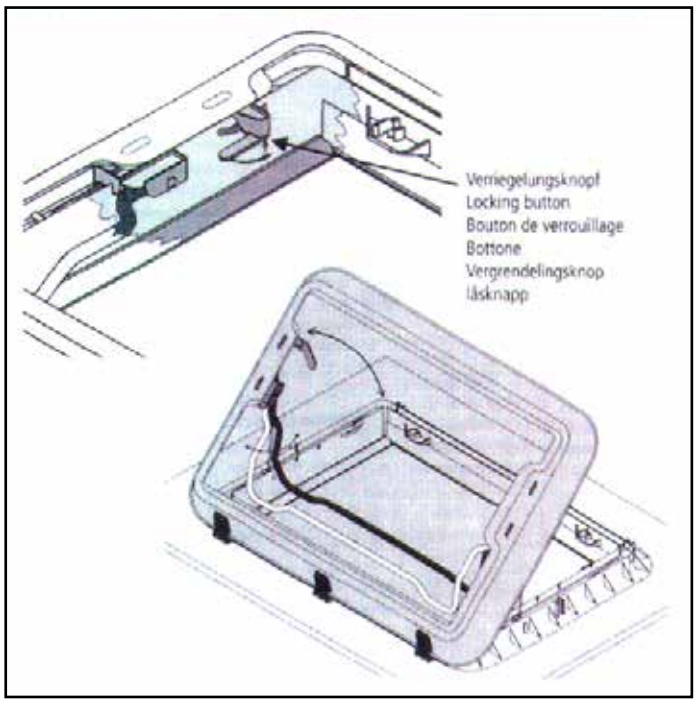
20. GRP Panels

GRP components need to be washed, waxed and cared for like a car. Chemicals and dirt can collect during storage, and the outer surface called a gel coat can be stained or marked when chemicals combine with rain or dew. Most stains or marks can be removed with mild dishwashing detergent, but more stubborn marks may require a rubbing compound. To help keep your GRP components looking almost like new, it is wise to wash the parts monthly (or more frequently) using mild dishwashing detergent, but avoid using strong alkaline (e.g. tri-sodium phosphate) or acidic cleaners or abrasives. Waxing the components once or twice a year with a good grade paste wax will help to maintain the colour and finish.

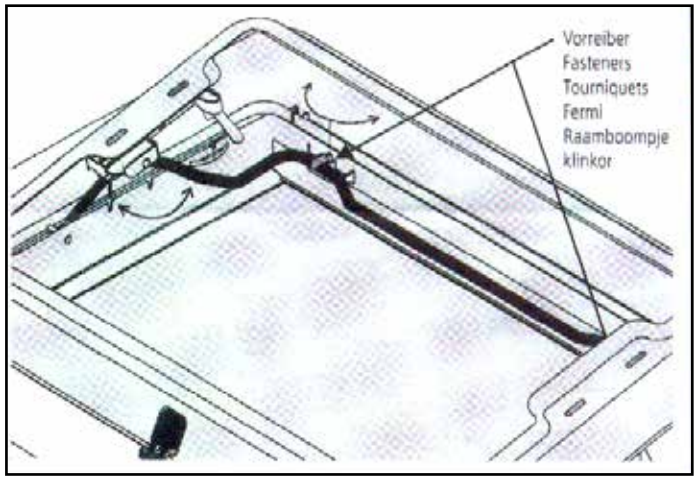
21. ROOFLIGHTS

HEKI Rooflights
Operating, safety and care instructions HEKI

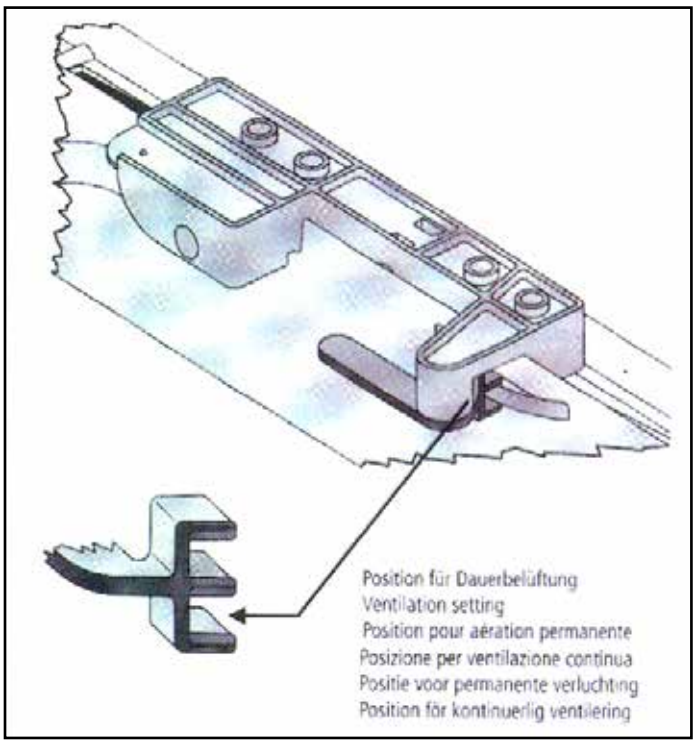
Opening in the tilt setting



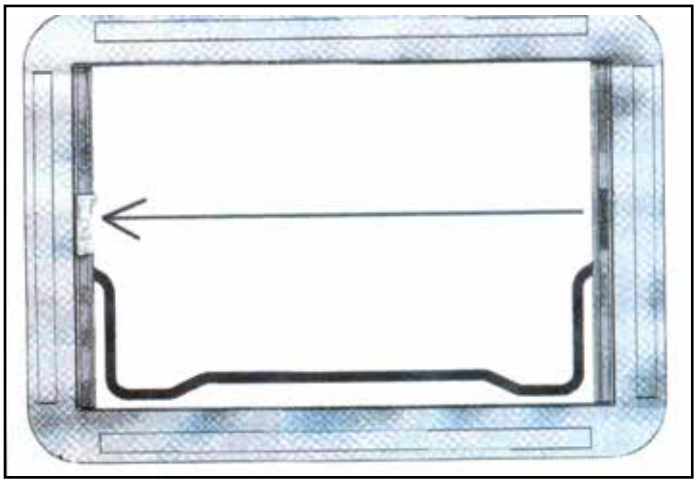
a) Press the locking buttons at both catches on the glass and turn inwards through approx. 90°.
b) Grasp the bar in the middle, unclip from the anchoring fasteners, swivel the bar down and push the glass dome upwards. (Glass dome is assisted after approx. 150 mm by the two pneumatic springs).
c) Swivel the bar towards the glass dome and clip into position.
To close the glass dome, perform steps (a-c) in reverse order.



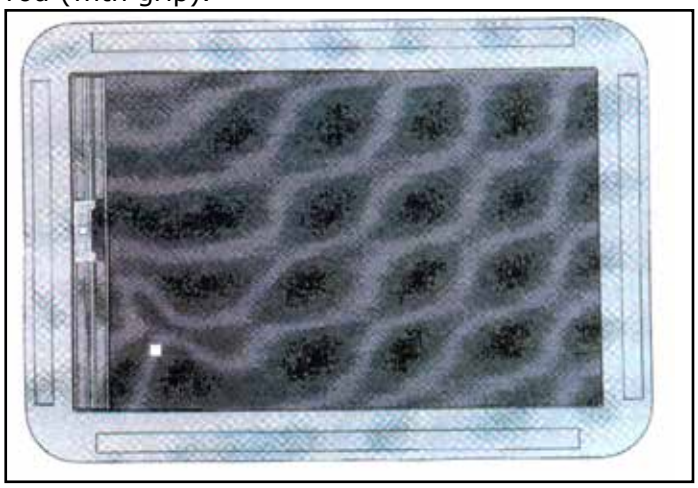
2. Opening in the intermediate setting
a) Open both catches on the glass (see picture).
b) Grasp the bar in the middle, unclip from the anchoring fasteners, swivel down and push the glass dome upwards. (Glass dome opens automatically after approx. 150 mm through the two pneumatic springs).
c) Open both fasteners and swivel the bar toward the intermediate setting and pull the glass dome down until the bar rests in the hold.
d) Secure the bar with the two fasteners.
To close HEKI, perform steps (a-d) in reverse order.



3. Opening in permanent ventilation setting
a) Open both catches on the glass.
b) Push glass dome up approx. 2 cm with both hands on the two catches and turn the catches to fix them in the ventilation setting.
To close HEKI, perform steps (a-b) in reverse order.



4. Closing the blind
a) To close the blinds, grasp the end rod (without grip) in the recess and engage in the opposite end rod (with grip).



Caution!! When the sun is shining brightly, the blind may only be closed 2/3 and the glass dome must be fixed in the "permanent ventilation setting".
b) You can move both joined end rods to adjust the blinds to the required position (black out/fly screen/sun shade).
5. Opening the blinds
a) Move the blind right out to the side (end rod with grip) (see picture).
b) Holding the recess with one hand, press the rocker with the other hand and guide the blind back into position.

Safety instructions:
- Do not stand on the acrylic glass.
- Close HEKI completely before moving the vehicle.
- Close HEKI when leaving the vehicle.
- Please consult your dealer when any defects or problems occur.
- Remove snow/ice or other dirt from the roof before opening HEKI.
- Do not open in strong winds or heavy rain.

Care instructions:
- Please clean the acrylic panes with the Seitz Acrylic Cleaner.
- Stains and light scratches on the acrylic pane can be removed using the Seitz Acrylic Polish and Seitz special polishing cloth.
- Only use water and mild soap suds to clean the blinds.
- Failure to comply with these instructions makes the guarantee null and void.

MPK Rooflight

The MPK roof light is situated in the bathroom of your caravan over the shower compartment.
It is fitted with a fly screen for your comfort. The fly screen is hinged allowing you access to the handles that enable you to raise the rooflight's dome for ventilation

To raise the dome pinch the black parts of the handle against the other half on both sides and push upwards. Both sides can be raised or just one depending on your preference.

22. CAPRICE COOKER

Before using the appliance please ensure that you are aware of the following:

- Appliance and accessible parts become hot during use.
- Avoid touching heating elements.
- Children less than 8 years of age shall be kept away unless continuously supervised.
- This appliance can be used by children aged from 8 years and above, persons with reduced physical, sensory or mental capabilities and/ or lack of experience and knowledge only if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.
- Children shall not play with the appliance.
- Cleaning and user maintenance shall not be made by children without supervision.
- Unattended cooking on a hob with fat or oil can be dangerous and may result in fire.
- Never extinguish a fire with water, switch off the appliance and cover flame with lid or fire blanket.
- Danger of Fire: Do not store items on the cooking surface.
- Do not use harsh abrasive cleaners or sharp metal scrapers to clean the oven door glass since they can scratch the surface, which may result in shattering of the glass.
- Never use a steam cleaner to clean appliance.

Operation

The burners on this appliance have fixed aeration and no adjustment is required. The burners should flame as follows:-

Propane - The flames should burn quietly with a blue/green colour with no sign of yellow tips.

Butane - Normally on initial lighting, a small amount of yellow tipping will occur. This then increases slightly as the burner heats up

Using the Hotplate Gas Burners

Ensure that the glass lid is open before turning on the burners

Glass lids may shatter when heated. Turn off all burners before shutting the lid.

The Glass lid has a tendency to snap shut towards the lowered position. Make sure all fingers are removed from appliance when closing lid.

Remove all spillages from the glass lid before opening.

Children should be supervised to ensure that they do not play with the appliance.

1. Ensure gas cylinder/supply is connected and turned on. In the event of a gas smell turn off at gas cylinder/mains and contact supplier.
2. Flame supervision: Each burner is controlled individually and is monitored by a thermocouple probe. In the event of the burner flames being accidentally extinguished, turn off the burner control and do not attempt to re-ignite the burner for at least one minute.
3. To light: Push in the control knob and turn to full rate - large flame ( ). Light the hob by depressing the ignition button, which is located on the fascia. It is necessary to hold the knob depressed after the burner has ignited for approximately 10 - 15 seconds, to allow the thermocouple probe to reach temperature, before releasing the knob. Should the flame go out when the knob is released, the procedure should be repeated holding the knob depressed for slightly longer.
4. If the burner has not lit within 15 seconds the control knob should be released and the burner left for at least 1 minute before a further attempt to ignite the burner.
5. For simmering, turn the knob further anti-clockwise to the low rate position.
6. To turn off: Turn the control knob until the line on the control knob is aligned with the dot on the control panel. Always make sure the control knob is in the off position when you have finished using the hotplate burners

- Each burner will support pans from Ø10 to Ø22cm; care should be taken not to overload the appliance as performance may be reduced.
- The following pan sizes are the maximum we recommend:-
- Electric Hotplate: - Ø180mm (Dual Fuel only)
- Auxiliary Burner: - Ø200mm
- Semi-Rapid Burner: - 2x Ø200mm or 1x Ø220mm with 1x Ø180mm
- When using small pans the flames should not spread beyond the base of the pan as this will reduce the efficiency of the burner.
- Avoid old or misshapen pans as these may cause instability.
- The lid must be opened fully prior to using the hotplate burners.

Using the Electric Hotplate (Dual Fuel Models)

Ensure power is switched on. The hotplate control is numbered from 1 to 6. To turn it on, rotate the knob either clockwise or anti-clockwise to the required position. Position 1 is the coolest setting. To turn off, rotate the knob until the line or pointer on the knob lines up with the zero on the control panel.

The hotplate is a sealed construction and transfers heat through conduction. For maximum efficiency a correctly sized pan with a flat heavy gauge base should be used. Pan size should be the same or

slightly larger (up to 1” / 2.5cm oversize).

Before using your hotplate for the first time, we recommend that you prime and season it.

To prime the Hotplate
Switch on the hotplate for a short period, without a pan, to harden and burn off the coating. Use a medium to high setting for 3 – 5 minutes. A non toxic smoke may occur during this process. Allow it to cool, then season.

To season the Hotplate
First heat the hotplate for 30 seconds on a medium setting, and then switch off. Pour a minimal amount of unsalted vegetable oil onto a clean dry cloth or paper towel, and apply a thin coat of oil to the hotplate surface. Wipe off any excess oil, then heat the hotplate on a medium setting for 1 minute. Occasional seasoning will help to maintain the Hotplate’s appearance.

Using the Grill

1. Ensure gas cylinder/supply is connected and turned on. In the event of a gas smell turn off at gas cylinder/mains and contact supplier.
2. To light: Open door, push in the control knob and turn to full rate– large flame ( ). Hold a lighted match or taper to the burner and push the control knob in and hold. The burner should ignite and the control knob should be held in for 10 -15 seconds before release. If the burner goes out, repeat procedure holding control knob for slightly longer.
3. For models fitted with Spark Ignition the procedure is similar except that the burner can be ignited by depressing the ignition button, which is located on the fascia. Ignition must be carried out with the door open, and if the burner has not lit within 15 seconds the control knob should be released and the grill left for at least 1 minute before a further attempt to ignite the burner.
4. Note: the grill must only be used with the door open.
5. On first use of the grill, it should be heated for about 20 minutes to eliminate any residual factory lubricants that might impart unpleasant smells to the food being cooked. A non-toxic smoke may occur when using for the first time so open any windows and turn on mechanical ventilators to help remove the smoke.
6. Although the grill does heat up quickly, a few minutes preheat is recommended.
7. Flame Failure Device (FFD): the grill burner is fitted with a flame sensing probe, which will automatically cut off the gas supply in the event of the flame going out. In the event of the burner flames being accidentally extinguished, turn off the burner control and do not attempt to re-ignite the burner for at least one minute. It is normal for the flames on this burner to develop yellow tips as it heats up.
8. A reversible grill pan trivet enables the correct grilling height to be achieved.

Fast Toasting	-position trivet high
Grilling Sausages	-position trivet high
Grilling Steak/Bacon	-position trivet high
Grilling Chops etc	-position trivet low
Slow Grilling	-remove the trivet

9. To turn off: turn the control knob until the line on the control knob is aligned with the dot on the control panel. Always make sure the control knob is in the off position when you have finished grilling.

The Grill area can get hot when the oven is in use, even if the grill is switched off.
Care should be taken when removing pans from the grill, i.e. use of oven gloves, and by making use of the removal grill pan handle.

The grill pan supplied is multi functional, for use in grill or oven.
The handle design allows removal or insertion whilst the pan is in use.
Always remove the handle when the pan is in use.
The grill MUST only be used with the door open.

Using the Oven

1. Ensure gas cylinder/supply is connected and turned on. In the event of a gas smell turn off at gas cylinder/mains and contact supplier.
2. To light: Open door, push in the control knob and turn to full rate (240°C). Hold a lighted match or taper to the burner and push the control knob in and hold. The burner should ignite and the control knob should be held in for 10 -15 seconds before release. If the burner goes out, repeat procedure holding control knob for slightly longer.
3. For models fitted with Spark Ignition the procedure is similar except that the burner can be ignited by depressing the ignition button, which is located on the fascia. Ignition must be carried out with the door open, and if the burner has not lit within 15 seconds the control knob should be released and the oven left for at least 1 minute before a further attempt to ignite the burner.
4. Place the oven shelf in the required position and close the door.
5. Set the control knob to required temperature. Although the oven heats up quickly, it is recommended that a 10 minute preheat be allowed. The oven should be up to full temperature in about 15-20mins.
6. To turn off: turn the control knob until the line

on the control knob is aligned with the dot on the control panel.

7. Shelf: the shelf has been designed to allow good circulation at the rear of the oven and is also fitted with a raised bar to prevent trays or dishes making contact with the back of the oven. To remove a shelf, pull forward until it stops, raise at front and remove. Installation of a shelf is a reverse of this procedure

Before first use, heat the oven for about 30 minutes at 200°C, to eliminate any residual factory lubricants that might impart unpleasant smells to the meals being cooked. A non-toxic smoke may occur when using for the first time so open any windows and turn on mechanical ventilators to help remove the smoke.
Always ensure food is properly cooked prior to serving.

Oven Temperature Control

The temperature in the oven is controlled by a thermostatic gas tap and is variable over the range 130°C to 240°C. Approximate temperatures for the settings on the control knob are shown in the table below. The temperatures indicated refer to the centre of the oven and at any particular setting the oven will be hotter at the top and cooler towards the base.
The variation between top and centre, and centre to bottom is approximately equivalent to one gas mark. Good use can be made of the temperature variation in several dishes requiring different temperatures may be cooked at the same time. In this way maximum benefit can be obtained from the gas used to heat the oven. Care should be taken not to overload the oven, adequate spacing being used to allow free circulation for heat.

Cooking Guidelines

Best results will be obtained by the shelf positions in this guide. Although the oven heats up quickly, it is recommended a 10 minute preheat be allowed. The oven should reach full temperature in 15-20 minutes.
Most cookery books give details of the shelf positions and gas mark settings for each recipe. If in doubt about a recipe you intend to use, study the recipe carefully then find a similar dish in our guide and use our shelf position and gas mark setting recommendation. Shelf positions are from the top down. When roasting with aluminium foil care must be taken that the foil does not impair circulation or block the oven flue outlet.

Gas Mark	Temperature (Centre of Oven)			Dish
¼ - ½	265-275°F	130-135°C	Very cool	Meringues
1	285	140	Cool	Stewed fruit
2	300	150	Cool	Rich fruit cake, rice pudding
3	330	165	Warm	Baked custard, shortbread fingers
4	355	180	Moderate	Victoria sandwich
5	385	195	Fairly hot	Whisked sponges, ginger nuts
6	410	210	Hot	Short crust pastry
7	430	220	Hot	Bread, scones, flaky pastry
8	445	230	Very hot	Puff pastry
9	465	240	Very hot	Quick browning

Do's and Don'ts

DO Read the user instructions carefully before using the appliance for the first time.
Do Allow the oven to heat before using for the first time, in order to expel any smells before the introduction of food.
DO Clean the appliance regularly
DO Remove spills as soon as they occur.
DO Always use oven gloves when removing food shelves and trays from the oven.
DO Check that controls are in the off position when finished.

DO NOT Allow children near the cooker when in use. Turn pan handles away from the front so that they cannot be caught accidentally.
DO NOT Allow fats or oils to build up in the oven trays or base.
DO NOT Use abrasive cleaners or powders that will scratch the surface of the appliance.
DO NOT Under any circumstances use the oven as a space heater.
DO NOT Put heavy objects onto open grill and oven doors.

Leaks

- If a smell of gas becomes apparent, the supply should be turned off at the cylinder **IMMEDIATELY.**
- Extinguish naked lights including cigarettes and pipes.
- Do not operate electrical switches.
- Open all doors and windows to disperse any gas escape.
- Never check for leaks with a naked flame, leak investigation should be carried out using a leak detector spray.
- Check the gas is not escaping from an unlighted appliance

Maintenance

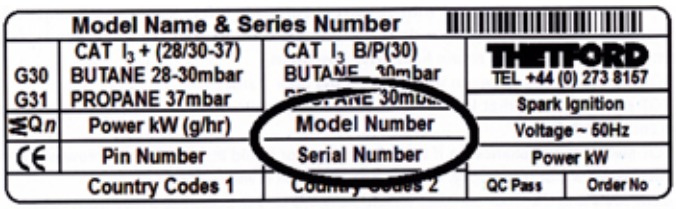
This appliance needs little maintenance other than cleaning. After the unit has cooled all parts should be cleaned using warm soapy water. Do not use abrasive cleaners, steel wool or cleansing powders. When cleaning the burner ring it is essential to ensure that the holes do not become blocked. The control knobs are a push fit

and can be removed for cleaning. They are interchangeable without affecting the sense of operation.

Service

All servicing must be carried out by an approved competent person. Before any service work is started, the appliance should have been left to cool and be disconnected at the mains socket. After each service the appliance must be checked for gas soundness.

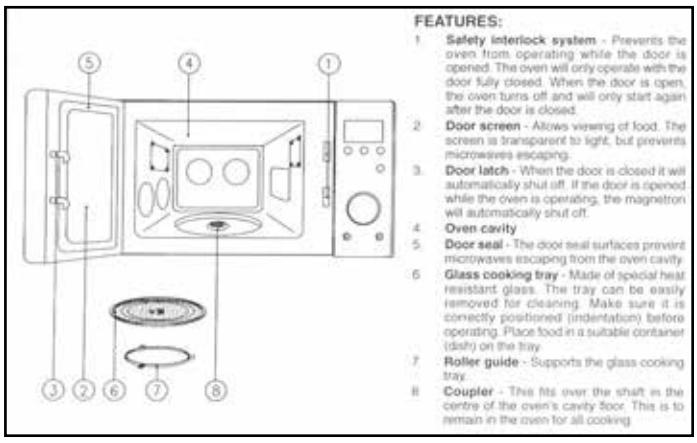
For service, please contact your authorised local Service Agent giving details of the model and serial number on the data badge plus date of purchase.

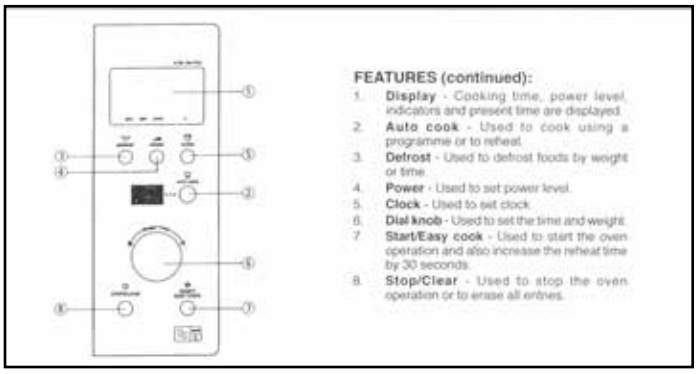


23. DAEWOO MICROWAVE OVEN

Precautions to avoid possible exposure to excessive microwave energy

- Do not attempt to operate this oven with the door open since open-door operation can result in harmful exposure to microwave energy. It is important not to remove or tamper with the safety interlocks.
- Do not place any object between the oven front face and the door or allow soil or cleaner residue to accumulate on sealing surfaces.
- If the door or door seals are damaged, the oven must not be operated until it has been repaired by a competent person: (1) door (bent), (2) hinges and latches (broken or loosened), (3) door seals and sealing surfaces.
- It is hazardous for anyone other than a competent person to carry out any service or repair operation which involves the removal of a cover which gives protection against exposure to microwave energy.
- Liquids or other foods must not be heated in sealed containers since they are liable to explode.
- The appliance is not intended for use by young children or infirm persons without supervision. Young children should be supervised to ensure that they do not play with the appliance.
- Only allow children to use the oven without supervision when adequate instructions have been given so that the child is able to use the oven in a safe way and understands the hazards of improper use.


FEATURES:
1. Safety interlock system - Prevents the oven from operating while the door is opened. The oven will only operate with the door fully closed. When the door is open, the oven turns off and will only start again after the door is closed.
2. Door screen - Allows viewing of food. The screen is transparent to light, but prevents microwaves escaping.
3. Door latch - When the door is closed it will automatically shut off. If the door is opened while the oven is operating, the magnetron will automatically shut off.
4. Oven cavity
5. Door seal - The door seal surfaces prevent microwaves escaping from the oven cavity.
6. Glass cooking tray - Made of special heat resistant glass. The tray can be easily removed for cleaning. Make sure it is correctly positioned (indentation) before operating. Place food in a suitable container (dish) on the tray.
7. Roller guide - Supports the glass cooking tray.
8. Coupler - This fits over the shaft in the centre of the oven's cavity floor. This is to remain in the oven for all cooking.


FEATURES (continued):
1. Display - Cooking time, power level, indicators and present time are displayed.
2. Auto cook - Used to cook using a programme or to reheat.
3. Defrost - Used to defrost foods by weight or time.
4. Power - Used to set power level.
5. Clock - Used to set clock.
6. Dial knob - Used to set the time and weight.
7. Start/Easy cook - Used to start the oven operation and also increase the reheat time by 30 seconds.
8. Stop/Clear - Used to stop the oven operation or to erase all entries.

Operation Procedure

This section includes useful information about oven operation.

1. Connect the mains lead to an electrical outlet.
2. After placing the food, in a suitable container, open the oven door and put it on the glass tray. The glass tray and roller guide must always be in place during cooking.
3. Shut the door. Make sure that it is firmly closed.
4. The oven light is on only when the microwave oven is operating.
5. The oven door can be opened at any time during operation by touching the door release button on the control panel. The oven will automatically shut off.
6. Each time a button is touched, a BEEP will sound to acknowledge the touch.
7. The oven automatically cooks on full power unless set to a lower power level.
8. The display will show ":0" when the oven is plugged in.
9. Time clock returns to the present time when the cooking time ends.
10. When the Stop/Clear button is touched during the oven operation, the oven stops cooking and all information retained. To erase all information (except the present time), touch the Stop/Clear button once more. If the oven door is opened during the oven operation, all information is retained.
11. If the Start button is touched and the oven does not operate, check the area between the door and door seal for obstructions and make sure the door is closed securely. The oven will not start cooking until the door is completely closed or the programme has been reset.

Make sure the oven is properly installed and plugged into the electrical outlet.

Wattage Output
The power-level is set by pressing the power button. The chart shows the display, the power level and the percentage of power.

Touch Power button	Power level (Display)	Approximate Percentage of Power
once	P-HI	100%
twice	P-80	80%
3 times	P-60	60%
4 times	P-40	40%
5 times	P-20	20%

Controls
Setting the Clock
When the oven is first plugged in, the display will flash ":0" and a tone will sound. If the AC power ever turns off, the display shows ":0" when the power comes back on.
1. Press the Clock button. This is a 12 hour clock system.
2. Press the Clock button once more. This is a 24 hour clock system.
3. Turn the dial knob to adjust hour.
4. Press the Clock button.
5. Turn the dial knob to adjust minute.
6. Press Clock Button

This Oven has multiple clock systems. If you want the 12 hour clock system omit this step.

If you selected 12 hour system, the display will show the hours from "1" to "12".
If you selected 24 hours system, the display will show the hours from "0" to "23".
The adjusted hours starts blinking.
The minute stops blinking and "00" starts blinking.
The display will show the minutes from "0" to "59".
The adjusted minute starts blinking.

When you press the Clock button, the minute stops blinking, and the colon starts blinking. If you selected 12 hours clock system, this digital clocks allows you to set from 1:00 to 12:59. If you selected 24 hours clock system, this digital clock allows you to set from 0:00 to 23:59.

Weight Defrosting
"Weight Defrost" lets you easily defrost food by eliminating guesswork in determining defrosting time. The minimum weight for "Weight Defrosting is 200 grams and the maximum is 3,000 grams. Follow the steps below for easy defrosting.
1. Press Defrost button (The DEF indicator and "0" appear the g indicator starts blinking).
2. Turn the dial knob to adjust the defrosting weight (The display will show what you selected).
3. Press Start button.

When you press Start button, the g indicator disappears and the DEF indicator starts blinking to show the oven is in the DEFROST mode. The display counts down the time to show you how much defrosting time is left in the DEFROST mode. The oven beeps during the defrosting cycle to signal that the food needs to be turned or rearranged. When the defrosting time ends, you will hear 3 beeps.

Time Defrosting
When TIME DEFROST is selected, the automatic cycle divides the defrosting time into periods of alternating defrost and stand times by cycling on and off.
1. Press Defrost button (The DEF indicator and "0" appear and the g indicator starts blinking).
2. Press Defrost button once more (The g indicator disappears and "0" is displayed).
3. Turn the dial knob to adjust the defrosting time (The display will show what you have selected).
4. Press Start button.

Your oven can be programmed for 60 minutes 00 seconds (60:00).

When you press Start button, the DEF indicator starts blinking to show the oven is in DEFROST mode. The display counts down the time to show you how much defrosting time is left in the DEFROST mode. The oven beeps during the defrosting cycle to signal that the food needs to be turned or rearranged. When the defrosting time ends, you will hear 3 beeps.

Cooking in One Stage
1. Press Power button (select the desired power level). The M/W indicator appears and the display will show what you selected. If step 1 is omitted, the oven will cook at full power.
2. Turn the dial knob to adjust the cooking time. The display will show what you selected. (Your oven can be programmed for 60 min 00 sec (60:00).
3. Press Start Button.

When you press Start pad, the M/W indicator starts blinking to show the oven is cooking. The display counts down the time to show how much cooking time is left. When the cooking time ends, you will hear 3 beeps.

Using lower power levels increases the cooking time which is recommended for foods such as cheese, milk and slow cooking of meats

Cooking in Two Stages
All recipes require frozen foods to be defrosted full before cooking.
This oven can be programmed to automatically defrost foods before cooking.

1. Press Defrost button (The DEF indicator and "0" appear and the g indicator starts blinking).
2. Turn the dial knob to adjust the defrosting weight (The display will show what you have selected).
3. Press Power button (Select the desired power level x 3). The M/W indicator appears and the display will show what you have selected. This example shows power level 6.
4. Turn the knob to adjust the cooking time (The display will show what you selected).
5. Press Start button.

When you press Start button, the DEF and M/W indicators come on to confirm the power levels selected. The DEF indicator starts blinking to show you that the oven is in DEFROST mode. The display counts down the time remaining in DEFROST mode. When the oven beeps, turn over, break apart and/ or redistribute the food. At the end of DEFROST mode, the oven will beep and start M/W cook. The DEF indicator disappears and the M/W indicator starts blinking. The display counts down the time remaining in M/W mode. When M/W cook ends, you will hear 3 beeps.

Easy Cooking

EASY COOK allows you to reheat for 30 seconds at 100% (full power) by simply pressing the Easy Cook button.

1. Press Easy Cook button (When you press Easy Cook button, ":30: appears). After 1.5 seconds, the ovens starts reheating. When the cooking time ends, you will hear 3 beeps.

Auto Cook

AUTO COOK allows you to cook or reheat many of your favourite foods by repeatedly touching Auto cook button.

1. Press Auto cook button (When you press Auto Cook button once, "AC-1" is displayed. By repeatedly pressing this button, you can select one of the four menu programmes as shown in the chart below).
2. Turn the DIAL KNOB to adjust the desired quantity (This display will show what you have selected).

Food	Press Autocook button	Display	Weight	Directions
Dinner Plate	once	AC-1	350g-450g	Put foods on the microwave plate and cover with vented plastic wrap.
Soup	twice	AC-2	350g-450g	Pour soup in microwave bowl or mug. Stir before serving.
Beverage	three times	AC-3	1 Cup (200ml) 2 Cups (200ml x2) 3 Cups (200ml x3)	Pour beverage in microwave mug and place it on turntable. Do not cover. Stir before serving.
Fresh vegetable	four times	AC-4	200g-400g	Wash and put in casserole. Add no water if vegetables have just been washed. Cover. Tender vegetables with lid and stir after cooking.

3. Press Start button (When you press Start button, the display changes into cooking time and the oven starts cooking. When the cooking time ends, you will hear 3 beeps.

Child Safety Lock

SAFETY LOCK prevents unwanted oven operation such as by small children. To set, press and hold Stop/Clear button for 3 seconds. Lock indicator appears and a beep sounds. To cancel, press and hold Stop/Clear button for 3 seconds. Lock indicator disappears and a beep sounds.

To Stop The Oven While The Oven is Operating

1. Press Stop/Clear button.
- You can restart the oven by pressing Start button.
- Press Stop/Clear button once more to erase all instructions.
- You must enter in new instructions.

2. Open the door

You can restart the oven by closing the door and pressing Start button.

Oven stops operating when door is opened.

Microwave Specifications

Power supply	230V AC 50Hz Single Phase with Earthing
Power consumption	1200W
Output Power	800W
Frequency	2450 MHz
Outside dimensions (W x H x D)	465 x 279 x 360mm
Cavity dimensions (W x H x D)	290 x 220 x 306mm
Net weight	Approx 12.2kg
Timer	60 min. 00 secs.
Power levels	5 Levels

Before You Call For Service

Refer to the following checklist, you may prevent an unnecessary service call.

The oven doesn't work

- Check that the power cord is securely plugged in.
- Check that the door is firmly closed.
- Check that the cooking time is set.
- Check for a blown circuit fuse or tripped main circuit breaker in your caravan.

Sparking in the cavity:

- Check utensils. Metal containers or dishes with metal trim should not be used.
- Check that metal skewers or foil does not touch the interior walls.

If there is still a problem, contact the service station.

Questions and Answers

Q: I accidentally ran my microwave without any food in it. Is it damaged?

A: Running the oven empty for a short time will not damage the oven. However, it is not recommended.

Q: Can the oven be used with the glass tray or roller guide removed?

A: No. Both the glass tray and roller guide must always be used in the oven before cooking.

Q: Can I open the door when the oven is operating?

A: The door can be opened anytime during the cooking operation. The microwave energy will be instantly switched off and the time setting will maintain until the door is closed.
Q: Why do I have moisture in my microwave oven after cooking?
A: The moisture on the side of your microwave oven is normal. It is caused by steam from cooking food hitting the cool oven surface.
Q: Does microwave energy pass through the viewing screen in the door?
A: No. The metal screen bounces back the energy to the oven cavity. The holes are made to allow light to pass through. They do not let microwave energy pass through.
Do not attempt to service the oven yourself!

24. REFRIGERATORS

Winter Operation - Dometic Refrigerators

Please check that the ventilation grilles or the flue outlets are not blocked by snow, leaves etc.

Dometic Refrigerator Model RM8550/ RMS8550

Cleaning

Before starting up the refrigerator, it is recommended to clean inside and repeat this at regular intervals. Using a soft cloth and lukewarm water with a mild detergent. Then wipe out the appliance with clean water and dry thoroughly.

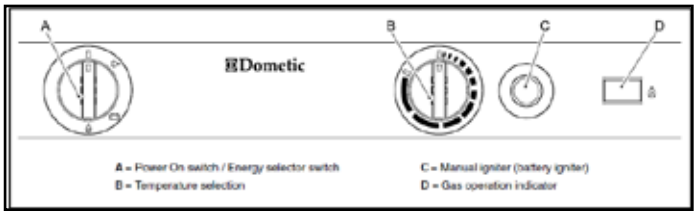
To avoid deterioration of materials:
Do not use soap or hard, abrasive or soda-based cleaning agents.
Do not allow the door seal to come into contact with oil or grease.

Operating modes and use of the refrigerator:

Operation mode and use of the refrigerator
This refrigerator is equipped to operate on three power modes: AC mains power (230V) 12V DC or gas (propane/butane liquid gas)
Select the desired power mode by the energy selector switch
The cooling unit is silent in operation.
The refrigerator works reliably on slopes of up to 6 degrees (5 degrees with models starting from 140 litres capacity.)
When the appliance is started for the first time, there may be a mild odour which will disappear after a few hours. Air the living space thoroughly.
The refrigerator will take several hours to reach its operating temperature in the cooling compartment.

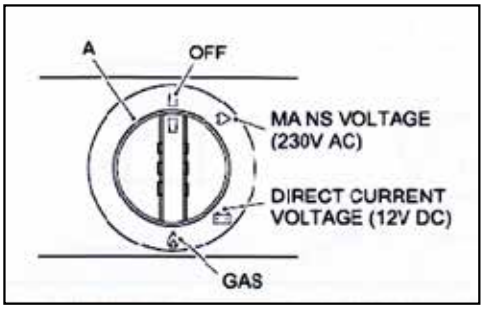
Control elements of energy selections (BATTERY IGNITER)

Handbook energy selection/ handbook ignition (RM8xx0) battery igniter



Explanation:

The refrigerator is equipped to operate on mains power, 12V DC or liquefied gas. Select the desired power supply by turning the energy selector switch A. The energy selector switch A has four settings: OFF, AC mains voltage, DC (battery) gas.
Electrical operation
Appliances with battery igniter (handbook energy selection)



Electrical Operation

Switch on the appliance by turning the energy selection switch a clockwise to position:

230V Operation

12V Operation

In order to prevent discharge of the on-board battery, 12V operation should only be used while the motor is running.

Gas Operation (Liquid Gas)

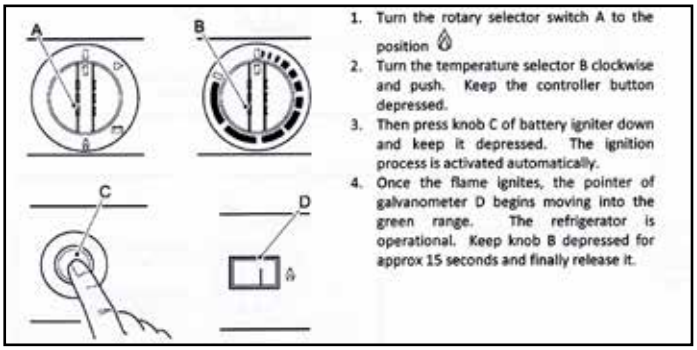
The refrigerator must be operated using liquefied gas (propane or butane NOT natural gas or town gas) When using LPG please consider that the burner needs cleaning at shorter intervals due to the gas combustion method (annually)
For physical reasons, ignition faults could occur starting from an altitude above sea level of approx. 1000m/3280 ft. (No malfunction!)

On the initial refrigerator start-up or after a cylinder change, air may be trapped in the gas line. To purge the air from the lines, switch on the refrigerator and any other gas appliances (e.g. stove) for a short time. The gas ignites without delay.

As a basic rule, gas operation is prohibited in petrol stations.

Prior to starting the refrigerator in gas mode:
Open the gas cylinder valve.
Open the shut-off valve for gas supply to the refrigerator.

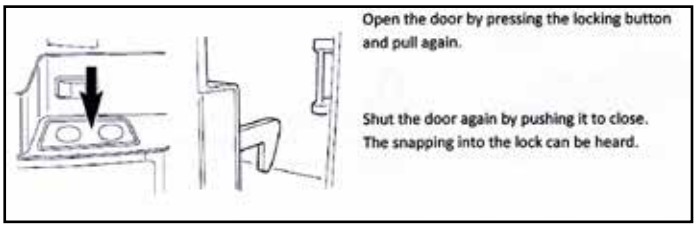
Appliances with Battery Igniter.



1. Turn the rotary selector switch A to the position
2. Turn the temperature selector B clockwise and push. Keep the controller button depressed.
3. Then press knob C of battery igniter down and keep it depressed. The ignition process is activated automatically.
4. Once the flame ignites, the pointer of galvanometer D begins moving into the green range. The refrigerator is operational. Keep knob B depressed for approx 15 seconds and finally release it.

Each refridgerator with manual ignition is equipped with an automatic flame safety valve which interrupts the gas supply after approx. 30 seconds when the flame has extinguished.

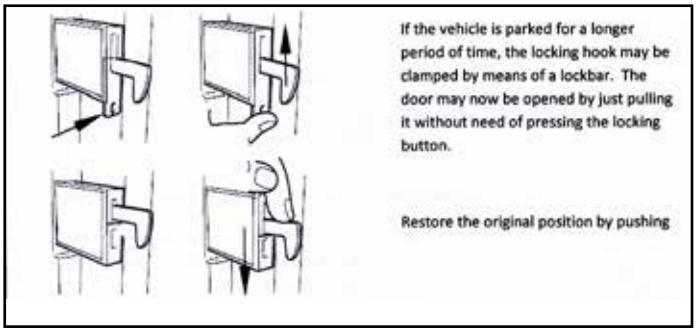
Door Locking



Open the door by pressing the locking button and pull again.

Shut the door again by pushing it to close. The snapping into the lock can be heard.

Fixing and releasing the door lock hook when parking the vehicle

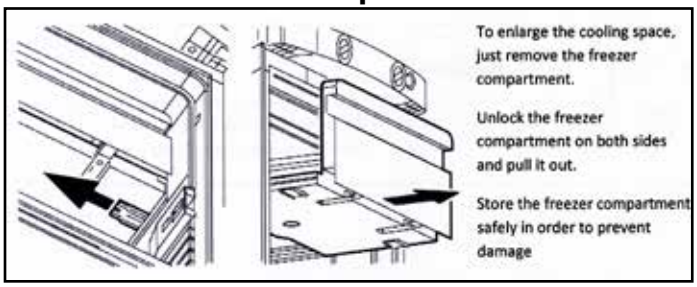


If the vehicle is parked for a longer period of time, the locking hook may be clamped by means of a lockbar. The door may now be opened by just pulling it without need of pressing the locking button.

Restore the original position by pushing

As a basic rule, shut and lock the refrigerator door before commencing your journey.

Removable freezer compartment.

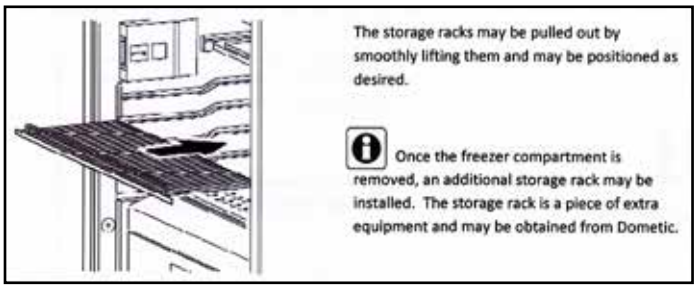


To enlarge the cooling space, just remove the freezer compartment.

Unlock the freezer compartment on both sides and pull it out.

Store the freezer compartment safely in order to prevent damage

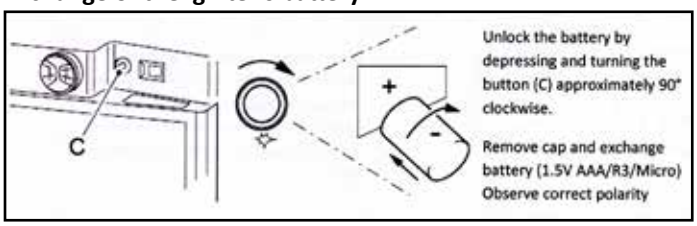
Positioning the storage racks



The storage racks may be pulled out by smoothly lifting them and may be positioned as desired.

Once the freezer compartment is removed, an additional storage rack may be installed. The storage rack is a piece of extra equipment and may be obtained from Dometic.

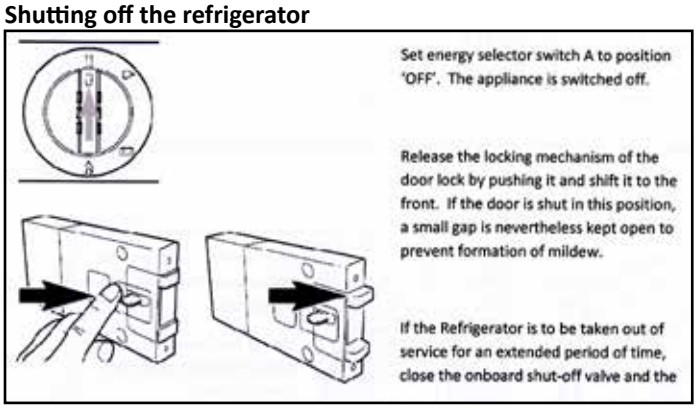
Exchange of the igniter's battery



Unlock the battery by depressing and turning the button (C) approximately 90° clockwise.

Remove cap and exchange battery (1.5V AAA/R3/Micro) Observe correct polarity

Shutting off the refrigerator

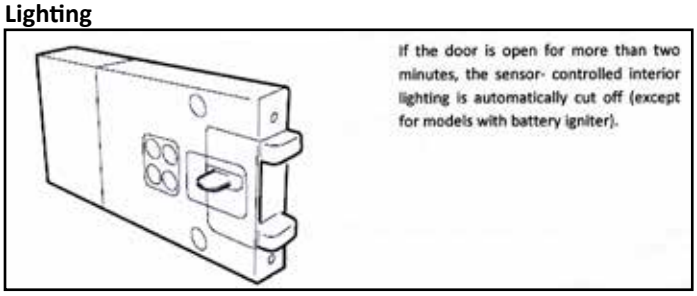


Set energy selector switch A to position 'OFF'. The appliance is switched off.

Release the locking mechanism of the door lock by pushing it and shift it to the front. If the door is shut in this position, a small gap is nevertheless kept open to prevent formation of mildew.

If the Refrigerator is to be taken out of service for an extended period of time, close the onboard shut-off valve and the

Lighting



If the door is open for more than two minutes, the sensor- controlled interior lighting is automatically cut off (except for models with battery igniter).

Dometic Refrigerator Model RMD8501
Cleaning
Before starting up the refrigerator, it is recommended to clean inside and repeat this at regular intervals. Using a soft cloth and lukewarm water with a mild detergent. Then wipe out the appliance with clean water and dry thoroughly.

To avoid deterioration of materials:
Do not use soap or hard, abrasive or soda-based cleaning agents.
Do not allow the door seal to come into contact with oil or grease.

Operating modes and use of the refrigerator:
Operation mode and use of the refrigerator

This refrigerator is equipped to operate on three power modes: AC mains power (230V) 12V DC or gas (propane/butane liquid gas)
Select the desired power mode by the MODE button. Appliances with automatic energy selection (AES) are additionally provided with "automatic mode" function. The AES system automatically selects the best energy source for each particular situation.

Maintenance
In compliance with the applicable regulations, please note that the gas unit and the connected ventilation ducts must be checked by authorised technical personnel after first use and after every other year for compliance with the European Standard EN 1949. A test certificate has to be issued. It is the user's responsibility to arrange this test.

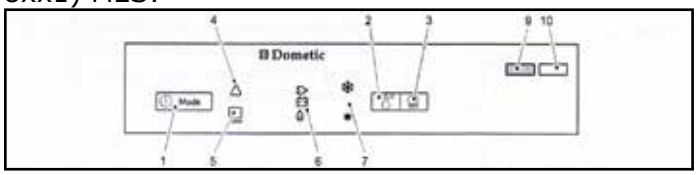
The gas burner must be inspected and cleaned as necessary at least once a year. When using liquid petroleum gas (tank or refill cylinders) the maintenance interval is reduced to half-yearly or quarterly.

Keep the evidence of maintenance work carried out on your refrigerator.

Work on gas and electrical equipment shall be carried out by an authorised customer services department.

We recommend maintenance following an extended shutdown of the vehicle. Please contact Dometic Customer Services.

Explanation of operating controls
Manual Energy selection/ automatic ignition (RMD 8xx1) MES:



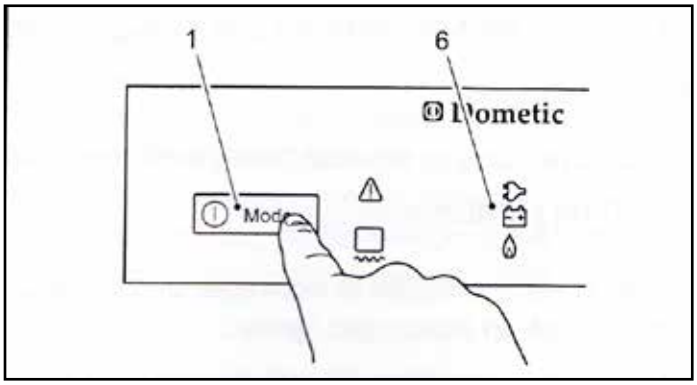
1. (Power on switch/ Energy selector switch (MODE)
2. Temperature selection
3. Power On switch frame heating
4. Indicator LED failure
5. Indicator LED frame heating
6. Indicator-LED/ operating mode display
7. Temperature level display.
8. NOT APPLICABLE TO MODELS FITTED TO BAILEY UNICORNS
9. External display "failure" (red)
10. External display "in operation" (blue)

Explanations
The refrigerator is equipped to operate on mains power, 12V DC or liquid gas. Select the desired power supply by turning the energy selector switch (1)
The energy selector switch (1) has four settings: • **Off,** • **Mains voltage** (230vAC), • **Direct-current voltage** (battery, 12V DC), •**Gas** (liquid gas propane/butane)

Switch the refrigerator ON or OFF by pressing button (1) for 3 seconds. Button (1) allows you to either initiate the requested energy supply or activate dimming of the LED brightness. By pushing once, the indicators illuminate for 10 seconds.

Button (3) allows you to switch on the frameheating in order to avoid a rising of condensation water due to high humidity. During the frameheating operation the indicator LED (5) is illuminating.

Electrical Operation
MES Appliances (manual energy selection)
To start the refrigerator, press button (1) for 3 seconds.



The LED (6) of the previously selected operating

mode illuminates:

230V

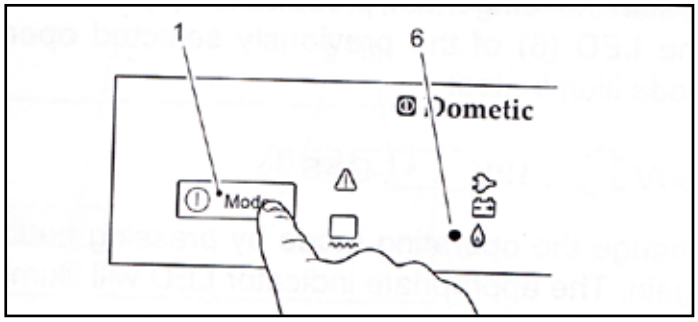
12V

Gas

Changing the operating mode by pressing button (1) again. The appropriate indicator LED will illuminate.

MES- appliances

1. Press button (1) several times until the indicator LED (6) illuminates.
2. The ignition process is activated automatically by means of an automatic igniter.



The ignition system will make 2 ignition attempts with 25 seconds interval when the burner fails to light. If repeated attempts fail to start the operation, a fault is indicated (please refer to failure indication).

Setting of the cooling compartment temperature

Select the desired cooling compartment temperature by pressing button (2)

The LED display (7) of the selected temperature setting is illuminated.

The scale starts with MIN position at the bottom LED position (small crystal = highest temperature) and climbs up to MAX position at the upper LED position (largest crystal = lowest temperature). Note: The temperature levels do not relate to absolute temperature values.

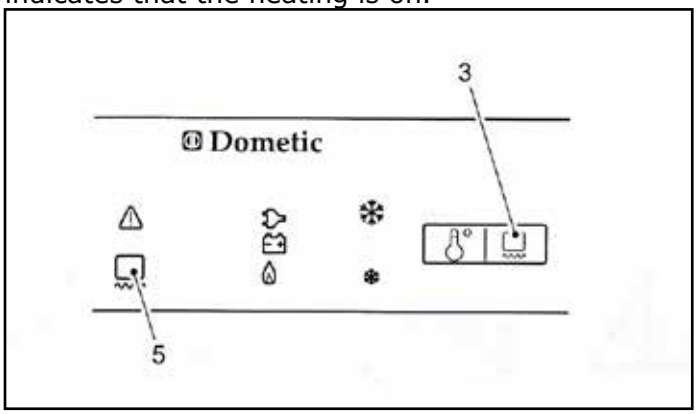
The cooling unit's performance is influenced by ambient temperatures. Please select the medium setting for ambient temperatures between +15° and +25°. The unit operates within its optimum performance range. Dometic refrigerators work according to the absorption principle. For physical reasons, an absorption system responds slowly to changes made by the thermostat controller, by loss of cooling energy through opening the door or during storing food. The devices meet the cooling performance requirements of the Climatic Class SN acc. To EN/ISO 7371 in the temperature range of +10°C to 32° ambient temperature.

For temperatures below +10°C, winter covers should be installed. For ambient temperatures exceeding +32°C for a longer period of time, it is recommended installing Dometic additional fan (item no. 241 2985 00).

Additional features (MES)
The brightness of the display reduces after a few seconds if no other buttons are pressed.
If the door is open, the interior lighting is switched off automatically after 2 minutes.
Failures are indicated by flashing of the failure indicator LED.
Should the door be kept open for too long (more than 2 minutes), the blue external LED starts flashing until the door is closed.

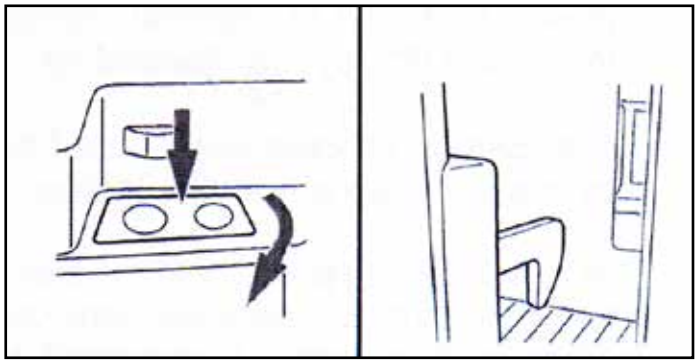
Frame Heating

All models are equipped with a frame heating (12VDC/3.5W) around the freezer compartment. During summer months with high temperatures and humidity the metal frame may have water droplets forming. To evaporate these droplets switch on the frame heating with switch (3). The LED (5) indicates that the heating is on.



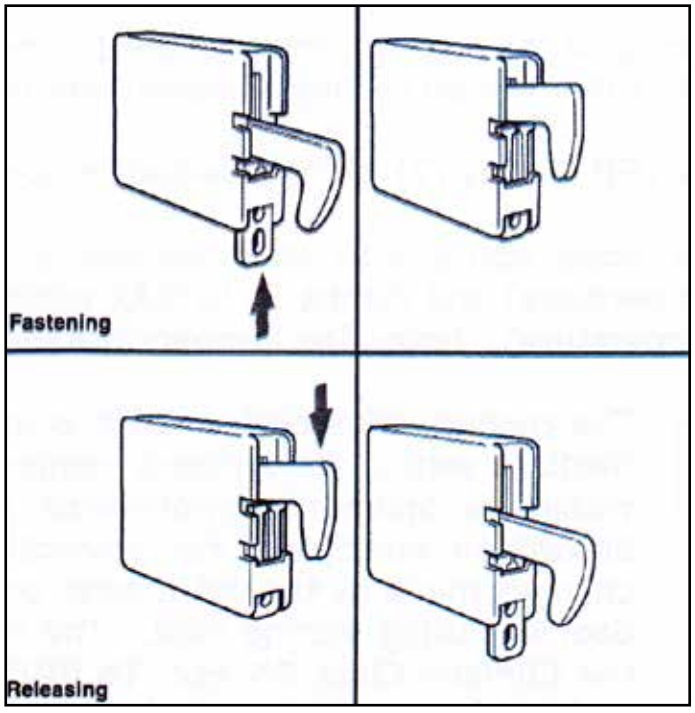
The frame heating is in operation with a presetting of 2 hours and switched off afterwards automatically. The frame heating can be deactivated every time by pressing the button (3).

Door Locking
Manual door lock
Open the door by pressing the locking button and pull open.



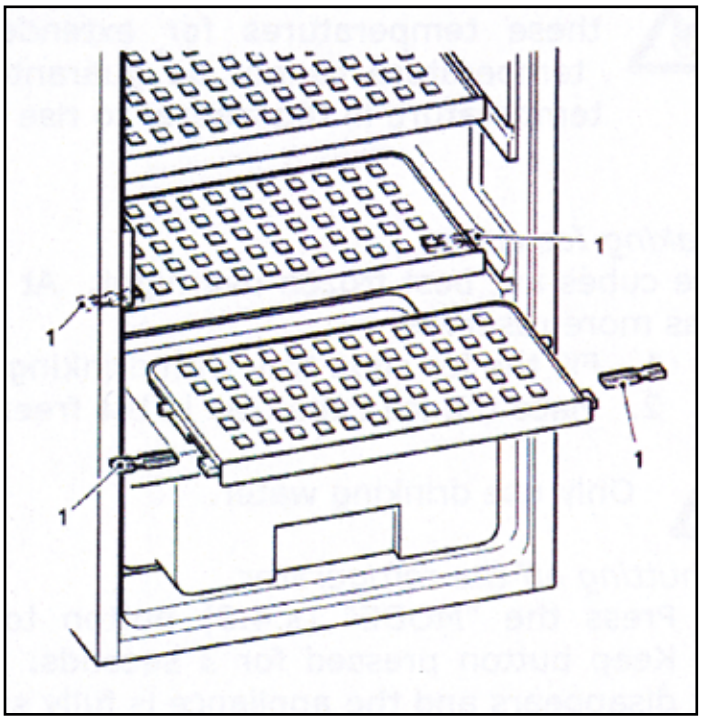
Shut the door again by pushing it to close. The snapping into the lock can be heard.
While the vehicle is parked, the locking hook may be fixed to facilitate opening of the door.

Fastening and releasing the door lock hook when parking the vehicle.
If the vehicle is parked for a longer time, the locking hook may be clamped by means of a lock bar. The door may now be opened by just pulling it without need of pressing the locking button.

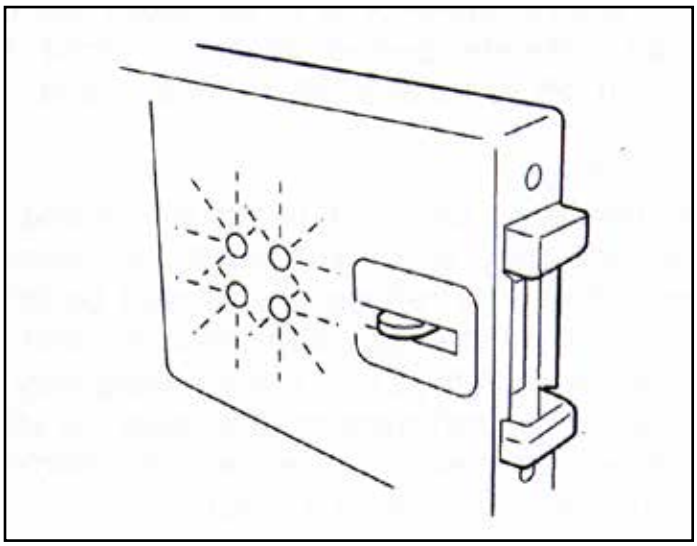


As a basic rule, shut and lock the refrigerator before you start your journey!

Positioning and storage racks
The storage racks may be pulled out by loosening the two locking devices (1) underneath. For loosening pull the slider to the middle, for fastening pull them sidewards.



Lighting
If the door is open for more than 2 minutes, the interior lighting is automatically cut off.



Please contact the authorised Dometic Service of a failure occurs

Storing food and making ice cubes

- Storing food in the cooling compartment
- Switch the refrigerator on approx. 12 hours before filling it.
- Always store pre-cooled foods in the refrigerator. Make sure that the food is well cooled when it is bought and also when transporting it. Use insulated cooling bags.
- Open the refrigerator door only for a short period of time when moving products.
- Products must be packed- best of all in closed containers, wrapped in aluminium foil or similar- and stored separately from each other, in order to prevent drying out or odours.
- Allow foods that have been warmed up to cool down before storing.
- Avoid storing products in the refrigerator that could emit volatile flammable gases.
- Do not expose the refrigerator to direct sunlight. Please bear in mind that the temperature inside a closed vehicle increases sharply if exposed to sunlight and that this can reduce the efficiency of the refrigerator.
- Ensure that air circulation of the cooling unit is not obstructed. Keep the ventilation grilles free from obstructions.

Storing food in the freezer compartment

- Do not keep carbonated drinks in the freezer.
- The freezer compartment is suitable for making ice cubes and for short –term storage of frozen food. It is not suitable as a means of freezing foods.

When ambient temperatures are lower than +10°C and the refrigerator is exposed to these temperatures for extended periods of time, an even regulation of freezer temperature cannot be guaranteed for system-related reasons. This can cause the temperature in the freezer to rise and the stored goods to melt.

Making Ice cubes

Ice cubes are best frozen overnight. At night, the refrigerator has less work to do and the unit has more reserves.
Fill the ice cube tray with drinking water.
Place the ice cube tray in the freezer compartment.

Only use drinking water.

Shutting off the refrigerator

- Press the "MODE" (s.4.3) button to switch off. Keep button pressed for 3 seconds. The display disappears and the appliance is fully switched off.
- Release the locking mechanism of the door lock by pushing it and shift it to the front. If the door is shut in this position, a small gap is nevertheless kept open to prevent formation of mildew.
- If the refrigerator is to be taken out of service for an extende period of time, close the onboard shut-off valve and the cylinder valve.

Defrosting

- As time goes by, frost builds up on the fins inside the refrigerator. A layer of frost thicker on one side may occur and does not represent a malfunction. When this layer of frost is about 3mm thick, the refrigerator should be defrosted.
- Switch off the regulator, as described in section "Shutting off the refrigerator"
- Remove all food and the ice cube tray
- Leave the refrigerator door open to allow air to enter and prevent formation of mildew.
- After defrosting (freezer compartment and fins free of frost), wipe both cooling compartments with a cloth.

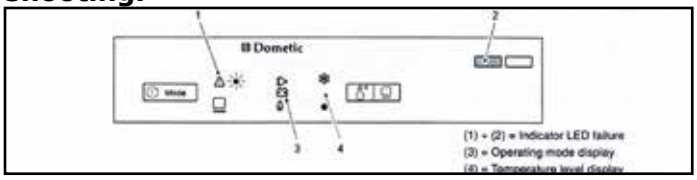
Water thawing in the main compartment of the refrigerator runs into an appropriate container at the back of the refrigerator. From there the water evaporates.

The layer of ice must never be removed forcibly, nor may defrosting be accelerated using a heat source!

Winter operation

In winter, check that the ventilation grilles and the exhaust duct system (1) have not been blocked by snow, leaves, etc.

Information on failure display and trouble-shooting.



If a malfunction occurs, the indicator LED "Failure" (1) flashes and LED (2) simultaneously. If the failure is not resolved, it repeats after 1 hour.

Status messages on the display

LED is flashing
230V mode: "230V" is not available or voltage is too low

LED is flashing
12V mode: "12V" is not available or voltage too low.

LED is flashing.
Gas/Auto mode: Flame not ignited.

All temperature setting LEDs are flashing
Temperature sensor defective, refrigerator works on mid temperature setting.

LED +All temperature setting LEDs are flashing
230V- Heating element defective.

LED + all temperature setting LEDs are flashing
12V- Heating element defective.

Troubleshooting

Before notifying the authorised Service Centre, please check whether:
The instructions in the section "Operating the refrigerator" have been followed.
The refrigerator is level.
It is possible to operate the refrigerator with any available power source.

Failure: The refrigerator does not cool sufficiently.
Possible cause
Action you can take
q) Inadequate ventilation to the unit.
a) Check that the ventilation grilles are not covered.
q) Thermostat setting is too low.
a) Set Thermostat to a higher level.
q) The condenser is heavily frosted.
a) Check that the refrigerator door closes properly.
q) Too much warm food has been stored
a) Allow warm food to cool down before storage.
q) The appliance has been running for only inside within short period of time.
a) Check whether the cooling compartment works after 4 – 5 hours.
q) Ambient temperatures too high.
a) Regularly remove ventilation grilles.

Failure: The refrigerator does not cool in gas operation mode.
Possible cause
Action you can take
q) Gas cylinder empty.
a) Change gas cylinder.
q) Is the supply shut-off device open?
a) Open the shut-off device.
q) Air in the gas pipe?
a) Switch off the appliance and start again. Repeat this procedure 3-4 times, if necessary.

Failure: The refrigerator does not cool in 12V operation.
Possible cause
Action you can take
q) On-board fuse defective.
a) Fit new fuse.
q) On-board battery discharged.
a) Check battery, charge it.
q) Engine not running.
a) Start engine.
q) Heating element defective (please also refer to failure indication).
a) Please inform the Dometic Customer Services.

Failure: The refrigerator does not cool in 230V operation.
Possible cause
Action you can take
q)On-board fuse defective.
a) Fit new fuse.
q) No connection to supply voltage.
a) Establish power connection.
q) AES: gas operation despite connection to the supply voltage.
a) Appliance switches to gas operation due to insufficient supply voltage (automatically switches back to 230V operation).
q) Heating element defective (please also refer to failure indication)
a) Please inform Dometic Customer Services.

Maintenance
Please visit www.dometicapproved.co.uk or telephone 0844 6260130 to locate your local service centre. installation may only be carried out by authorised personnel. We recommend contacting your Dometic Service Centre.

EN 1949 stipulates that the appliance's gas equipment and its associated fume system must be inspected after installation and a certificate issued.

When using the fridge for extended periods on gas operation Dometic recommend a seasonal service is carried out by authorised personnel.

It is the user's responsibility to arrange for inspections after purchase.

It is recommended that the gas burner be inspected and cleaned as necessary at least once a year.

We recommend maintenance following an extended shutdown of the vehicle.

25. STAINLESS STEEL SINK

Stainless steel sinks need little maintenance other than cleaning immediately after use. Most deposits can be removed by washing with soap or mild detergent and hot water, followed by a clean water rinse and drying with a soft cloth to prevent water spotting.
For more tenacious deposits a non-abrasive multi-purpose cream cleaner such as CIF should be used, followed by a clean water rinse and drying.
Tannin stains can be removed by a solution of washing soda and water applied with a soft cloth/ sponge followed by a clean water rinse to remove any residues and drying with a soft cloth.
(When cleaning with anything other than water be careful not to get the solution onto your kitchen worktop.)
Scratching will be most noticeable on highly polished components. These marks are usually only superficial and can be removed with a proprietary stainless steel cleaner/polish. A useful alternative is a car paint restorer, such as 'T-Cut'. If the surface has a directional polished grain always clean along the grain and not across it.
Always avoid bleach and trigger dispense products and never use wire wool or leave wet cloths, pads or containers on the surface as they may form water marks.
IMPORTANT
To preserve the appearance of your appliance we recommend plastic bowls or mats are not stored in the sink. This is particularly the case when travelling because vehicle movement may cause the plastic bowl to vibrate/rub against the surface and leave marks.

26. SMOKE ALARM

The smoke alarm is operational once the battery is connected. When products of combustion are sensed, the unit sounds an alarm until the air is cleared.

Features
- Battery Operated
- The Operating light (red LED) flashes every 40 seconds confirming that the unit is powered.
- Low Battery Warning: the unit will emit an audible 'chirp' once every 40 seconds for 7 days before the battery needs to be replaced. (Failure to replace the battery will result in insufficient power to alert you in a real fire situation.
- Sensitivity test button. This tests the sensitivity, circuitry, battery and horn.
- Loud alarm.

Test smoke operation after vehicle has been in storage, before each trip and at least once a week during use.

Your alarm requires one 9 volt battery. Under normal use, the battery should last one year.

Simple Maintenance
Clean your smoke alarm once every three months to help keep the unit working correctly. Gently vacuum using the soft brush attachment.

Problems are indicated by two events:
The alarm does not sound upon pressing the test button.
The operating light remains steadily on or off (i.e. does not flash every 40 seconds, when the unit is not in alarm.)

Try the following:
Inspect for obvious damage.
- Check that the unit contains recommended battery type.
- Check that the battery cover has been removed.
- Check that the battery is properly connected
- Gently vacuum as recommended above Replace battery

If these procedures do not do not correct the problem, do NOT attempt repairs; replace the smoke alarm

27. CARBON MONOXIDE ALARM

A Fire Angel CO-9B battery operated alarm is fitted near to the ceiling in your caravan.

Features

- An advanced electrochemical sensor designed to accurately measure low levels of carbon monoxide (CO) providing an early warning of toxic CO levels in your caravan.
- Detects carbon monoxide continuously.
- Resistant to false alarms caused by usual household contaminants.
- Sounds a large 85 dB alarm (at 1 metre (3 feet)) to alert you in case of an emergency.
- Test/Reset button
- Simple to mount , portable, ideal for travelling
- Conforms to the British standards Institute (CSi) Carbon Monoxide Standard BS EN 50291: 2001
- 7 Year Warranty.
- Test/Reset button feature
- Test the sounder, batteries and circuitry
- Allows you to test the sensor by introducing a source of CO into the detector
- Silence the loud 85dB sounder during an alarm (only possible when current CO level is less than 50ppm)
- Testing the sounder batteries and circuitry.
- Test the sounder, batteries and circuitry by pressing and holding the Test/Reset button for 1 second to confirm that the detector is operating properly. The sounder should sound as soon as the button is pressed, and the alarm LED will illuminate red, indicating that the sounder is working and the batteries are providing power to the unit. The test for the sounder batteries and circuitry should be performed weekly.
- Testing the Sensor
- All sensors testing should be carried out by a responsible adult. This test should only be performed once a month. Excessive testing will cause the battery life to be shortened.

Note: CO testers may be used in order to avoid having to burn cigarettes, incense sticks etc.

Please read all steps thoroughly before attempting to test your alarm.

- If the alarm is wall mounted, remove by unhooking the unit from the wall fixing screws.
- Cover the sounder vents with one hand and hold the Test/Reset button down with your thumb/ finger until the power LED illuminates green and the sounder sounds for a second time. (This should happen after 5 seconds.) Release the Test/Reset button and the power LED will flash green once every second. This indicates that the sampling rate of the detector has increased and can be tested using a known source of CO.
- Light an incense stick or a cigarette using a match or a lighter. If using an incense stick, be sure to blow the flame out so that the incense stick is smouldering. Extinguish the lighter, or put out the match and place it into a dish of water.
- Turn the detector on its side so that the vents on the right hand side of the detector are pointing downwards. Hold the burning incense stick or cigarette around 15cm (6 inches) below the detector. An increase in the localised carbon monoxide level within the sensor to more than 50ppm (Parts Per Million, the accepted level of carbon monoxide in the air) this will cause the sounder to sound for one cycle of four loud beeps. The power LED will no longer flash green every second but will revert to flashing once a minute. The detector will revert back to the ordinary operating mode (it may take up to two minutes for the localised level of carbon monoxide to reach over 50ppm.) Now move the source of CO away from the detector as the test is finished.
- After step 4, put out the incense stick or cigarette by placing it into a dish of water. Ensure all flames have been extinguished.

Note: If the localised carbon monoxide level within the sensor does not reach 50ppm during the test, the sensor test will stop automatically after 3 minutes.

Understanding your product's indicators

The higher the concentration of carbon monoxide detected by the detector, the quicker it will respond. When sufficient carbon monoxide is detected a loud audible signal (85 dB at 1m/3 ft) will be emitted and the Alarm LED will flash red once every second.

The Alarm will sound:

- Between 60 and 90 minutes when exposed to 50ppm of CO
- Between 10 and 40 minutes when exposed to 100ppm of CO
- Within 3 minutes when exposed to 300ppm or more CO
- There will be an audible 'chirp' if the battery, sensor or circuitry has any fault including a low battery. This sound will continue once a minute for 30 days. (The battery must be replaced to ensure occupant safety.)
- If the device continues to chirp despite having new batteries and the product is still in warranty then contact technical support for the device. If the device is no longer in warranty replace it immediately

Maintaining/ testing your detector
Maintenance

Your detector will alert you to potential hazardous CO concentrations in your caravan when maintained properly. To maintain your FireAngel detector

in proper working order and to ensure that the sensors will last for the lifetime of the product, it is recommended that you:

- Test the sounder, batteries and circuitry of your detector once per week by pressing and holding the Test/Reset button for 1 second.
- Perform the sensor test annually.
- Keep the detector free of dust by gently vacuuming with a soft brush attachment when required.
- To prevent the possibility of contaminating the sensor in your detector and thus affecting its reliability:
- Never use cleaning solutions on your detector. Simply wipe with a damp cloth.
- Do not paint the detector
- Do not spray aerosols on or near to the detector.
- Do not use any solvent based products near to the detector

Failure of any test should be reported to the manufacturers technical support line. (this telephone number can be found at the back of this handbook)

Do not attempt to repair your CO Detector. Do not remove any screws or open the main casing of your detector. Any attempt to do so may cause malfunction and will invalidate the warranty.

Never ignore any alarm.

What to do in the event of an alarm

- Keep calm and open all the doors and windows to ventilate your caravan
- Stop using all fuel burning appliance and ensure where possible they are turned off
- Evacuate the caravan leaving doors and windows open
- Do not re enter the caravan until the alarm has stopped.
- Get medical help for anyone suffering the effects of CO poisoning and advise that CO poisoning is suspected.
- Close the windows and doors and do not use the caravan again until you have had a full service of all appliances by your supplying retailer. In the case of gas appliances they must be tested by a GAS SAFE registered installer. Please conyact your Bailey Retailer for more details.

The electro-chemical sensors used in the carbon-monoxide alarm have a limited lifespan- therefore it is recommended that a CO alarm is replaced every 5-7 years after manufacture or in accordance with the unit's instructions, do to be sure check the manufacturing date on the alarm's label.

28. BATHROOM CARE.

Do not expose the bathroom plastic fittings to cleaning products or abrasive material containing concentrated perfumes, body oil, linseed oil, gritty or abrasive substances, solvents (white spirits, anti freeze etc.) These may cause permanent damage to the material. Always clean the bathroom straight away after use with warm soapy water and a soft cloth, stubborn stains may be removed with a solution if lemon juice and water, at a solution of 1 part water to 1 part lemon juice.
Thetford bathroom cleaner is suitable for leaning the shower and vanity unit plastic items (sinks, shower trays Thetford toilets etc).

Domestic cleaning products are not used to be used to clean the shower/ vanity unit plastic items
Some mouthwashes can cause plastic items to crack and for this reason should not be used.

Bathroom Shower Tap
Your shower tap has a high quality finish and should be treated with care to preserve the visible surfaces. All surface finishes will wear if not cleaned correctly, the only safe way to clean your mixer is to wipe with a soft damp cloth.
Stains can be removed using washing up liquid
All bathing powders and liquids will damage the surface of your fitting, even the non scratch cleaners.

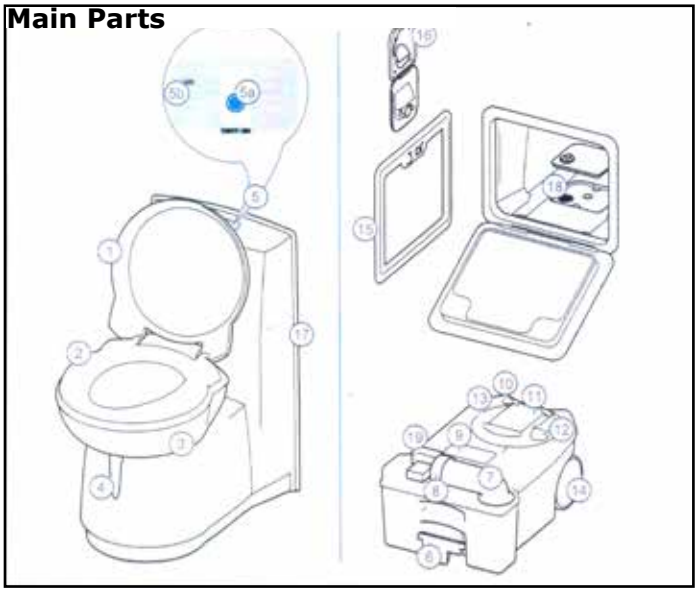
Mirrors
Cleaning-It is best to clean mirrors with a cleaner that does not contain ammonia. If you are not sure of the ingredients, spray a clean lint free cloth with the cleaner so as not to get the liquid near to the edge of the mirror which is where ammonia would cause the most harm.

- Use a soft, dust free cloth
- Warm Water – try bottled water if your tap water is mineral rich
- For stubborn dirt use an oil free steel wool pad – carefully and precisely
- Spray cleaners on your cloth, not directly onto the mirror
- Keep the mirror frame dry
- Never use a razor blade on a mirror, even if the mirror has paint specks on it. Always use hot water first.
- If you find black spots on your mirror you may have damaged the silvering behind the mirror's glass. If this is the case you may be able to cover the spots from the front.
- Moisture along a mirror's edge can seep in and harm the reflective backing.
- Keep in mind that long-term exposure to direct sunlight may damage some mirrors.

29. THETFORD C262 CWE TOILET.

Introduction
The Thetford Cassette Toilet is a high quality product. The toilet forms an integral part of your caravan bathroom, thanks to its functional design which combines modern styling and ease of use.
The C-260 Cassette Toilet is manufactured from high quality synthetic materials which makes it a durable, user and maintenance friendly toilet.
The toilet is made up of two parts: a permanently fixed part and a Waste Holding Tank that is accessible from the outside. The removable Waste Holding Tank is located under the toilet bowl and can be removed via a door on the outside of the Caravan.
The Thetford Cassette Toilet is the solution to the sanitary problem in your caravan.
The operating instructions cover Thetford Cassette Toilet C262 CWE

Main Parts



Parts
1. Cover
2. Seat
3. Swivelling toilet bowl
4. Blade handle to open and close blade
5. Control panel
5b. Waste holding tank level indicator
6. Pull handle
7. Pour out spout
8. Cap with measuring cap
9. Automatic pressure release vent
10. Vent button
11. Sliding cover
12. Blade opener
13. Waste holding tank mechanism
14. Wheel
15. Service door
16. Water fill door
17. Console with flush water tank
18. Filter for electric ventilator
19. Location waste pump- out system

Preparing for use (standard)

- Open the access door on the outside of your Caravan.
- Remove the Waste Holding Tank by pulling the safety catch (which holds the tank in place) upwards.
- Pull the Waste Holding Tank outward to the stop. Tip it slightly and take the tank fully out.
- Place the tank upright and turn the rotating emptying spout upwards. The emptying spout ensures that the tank can be easily and hygienically emptied.
- Remove the cap, with the measuring cup inside, from the emptying spout and pour the correct dosage of Thetford toilet fluid (see product label) into the holding tank. This avoids unpleasant smells and keeps the inside of the tank clean. Next add approximately 2 litres of water - enough to ensure that the bottom of the Waste Holding Tank is covered. Screw the cap back onto the emptying spout and turn back to its original position. The Emptying Spout Measuring Cap is supplied inside the toilet. Never add toilet fluid directly via the blade or the toilet bowl as this could damage the lip seal of the Waste Holding Tank. Always pour the fluids via the emptying spout. The lip seal is the water tight seal around the top of the tank.
- Slide the Waste Holding Tank back into its original position via the access door. Make sure that it is secured with the safety catch. Close the access door and lock it. Your Thetford toilet is now ready to use.
- Never use force if you cannot get the tank back into pace easily. This may cause serious damage. If blockage occurs, always check that the blade handle is in the correct position.
- For toilets with own Flush-Water Tank: Open the water filling door and fill the flush-water tank with the correct dosage of Aqua Rinse. This Thetford toilet fluid keeps the flush water fresh and improves the flushing. Next, fill up the flush-water tank with clean water (approximately 8 litres) using a watering can or hose. Your toilet is now ready to use.

Using the toilet (standard)

- Turn the bowl to the desired position with the lid closed and using both hands.
- To activate the control panel, press the flush-button once. The control panel display will stay activated for approximately 5 minutes. Run some water into the bowl by pressing the flush button again briefly.
- The toilet may be used with the blade open or closed. To open the blade, slide the blade handle under the toilet bowl sideways. After use, open the blade (if still closed) and flush the toilet by pressing the flush button for several seconds (if necessary re-activate the control panel). Close the blade after use. If your toilet has its own flush-water tank, please make sure that you do not travel with a flush-water tank that is too full. Do not travel with water in the toilet bowl. Failure to adhere to this notice may result in water damage to your motor home.

Emptying

- The Waste Holding Tank has a capacity of 18 litres and required emptying when the red light (LED) on the toilet control display lights up. When the Waste Holding Tank only has capacity for two more litres which is no more than two to three further uses.
- Place the Waste Holding Tank in an upright position (Pull-Out Handle at the top, Wheels at the bottom). Slide the handle sideways - to the front of the tank - until it snaps out of its locked position. Pull the handle up and wheel the Waste Holding Tank to an authorised waste disposal point. Push the handle back into its locked position. Turn the emptying spout upwards and remove the cap from the spout. Hold the Waste holding Tank in such a way that during emptying you can operate the vent plunger with your thumb. To empty the tank without splashing, depress the vent plunger while emptying the tank. After emptying, rinse the tank and blade thoroughly with water.
- Do not vigourosly shake the tank or use high pressure water cleaners. This may cause damage to the tank's interior.
- The vent plunger should only be depressed once the emptying spout is pointing downwards. Prepare the toilet for re-use if required. Slide the Waste Holding Tank into the toilet and close the access door.
-
- Emptying with Optional Features
- Waste Holding Tank Multi-Level Indicator: The lower lamp indicates that the Waste Holding Tank is almost empty; the middle lamp indicates that it is more than half full; when the upper lamp lights up, the tank needs emptying as it can only take 2 - 3 further uses.
- The Waste Holding Tank Level Indicator will flash when the holding tank is not present. In this case the toilet will not flush.

Cleaning and Maintenance

- The toilet should be cleaned and maintained regularly, depending on the amount of use. To clean Thetford toilets, we advise using water and Thetford Bathroom Cleaner. Never use bleach, vinegar or other powerful household cleaners that contain these substances. These may cause permanent damage to the seals and other toilet components.

Caravan Equipment
Toilet Bowl

- Squirt Thetford Bathroom Cleaner into the toilet bowl.
- Flush the toilet bowl with water and wipe down the rest of the toilet with a damp cloth.
- Clean seat and lid. The seat and lid can easily be removed: Lift the seat and lid assembly and pull the round pins (inside the assembly) outwards from the pin holes. After cleaning, replace the seat and lid by positioning the round pins in front of the pin holes and push the lid and seat downwards.
- To keep your flush water fresh and to prevent deposits forming in your toilet bowl, add a correct dosage of Aqua Rinse in your flush water tank.
-
- Tip! For a really shining toilet, dry with a soft dry cloth after cleaning.

Waste Holding Tank

To keep your Waste Holding Tank fresh and clean, Thetford has developed a number of different toilet fluids. Thetford toilet fluids suppress smells, reduce formation of gas, promote breakdown of toilet waste and increase the life span of a mobile toilet. We advise a thorough cleaning of the Waste Holding Tank once each season.
Next to using the Thetford's Cassette Tank Cleaner, which is the powerful cleaning agent for the periodical cleaning of the waste Holding Tank of your toilet we suggest the following.

- Remove the removable mechanism from the Waste Holding Tank by turning it anti-clockwise and rinse it under a tap.
- Remove the cover plate from the Automatic Pressure Release Vent by prising it up using a small screwdriver. Use one hand to push the Automatic Pressure Release Vent open while holding the float of the Automatic Pressure Release Vent on the inside of the tank with the other hand. Push the float upwards, turn it 180 degrees and remove it from below. Remove the rubber seal underneath the float. Rinse the float and rubber seal under a tap. Replace the rubber seal and float for the Automatic Pressure Release Vent using the same method in reverse. The rubber seals in the toilet (the lip seal, the mechanism seal, the automatic pressure release vent seal and the cap seal) should be regularly cleaned with water and treated with Thetford High Grade Seal Lubricant. This will ensure that the seals remain flexible and in good condition. If the toilet is not to be used for any length of time, it is important to treat the seals with Thetford High Grade Seal Lubricant after cleaning.

Never use Vaseline or any vegetable oil except olive oil. These may cause leakage or malfunction. The lip seal is a part of the toilet that is subject to wear. Depending upon the extent and manner of use, the seals will become less effective and will need replacing periodically.

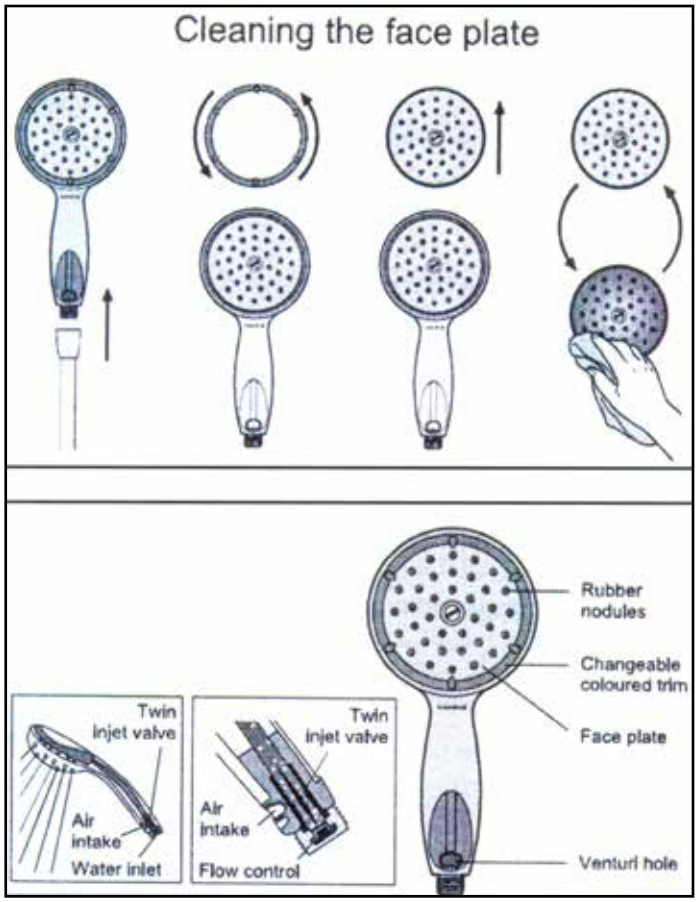
Winter operation

You can use your Thetford Cassette Toilet as normal in cold weather as long as the toilet is situated in a heated location. If there is a risk of freezing we advise that the toilet is drained by following the instructions under 'Storage'. For environmental reasons the use of antifreeze, such as that used in car radiators, is not recommended.

30. ECO CAMEL SHOWERHEAD

Your caravan is fitted with an Ecocamel showerhead

- It saves water energy and money.
- It has a wipe clean head to prevent the build up of lime scale
- Uses a maximum of 8 litres a minute



After showering when the shower is turned off, your ecocamel shower head simply drains off any excess water through the air intake

Clean your ecocamel shower head with a damp cloth. Do not use any abrasive or chemical cleaners. Should any scale build up on your shower heads spray plate you can descale it by rubbing the nozzles with your thumb.

31. SOFT FURNISHINGS

Carpet
Cleaning and Caring for Carpet Sets
When cleaning the interior of your caravan please remove the carpet from the vehicle.
Vacuum the carpets to take the dirt out of the pile
For general cleaning use a dry shampoo, following the product's directions.
For stains, use a mixture of 1/3 bleach to 2/3 warm water. Immerse a soft cloth in the solution until wet, then wring and squeeze the cloth until damp. Rub the affected area until the stain has gone.

NEVER USE DRIPPING WATER
The proportion of water to bleach must be accurate.

Never put the carpet in a washing machine or a tumble dryer.

Upholstery
Cleaning and care
Remove dust on a regular basis with your vacuum's upholstery or drape attachment. Try to avoid brushing fabric covers because that can damage the pile.
If you spill something on your upholstery, blot up the excess immediately. Avoid detergents which may damage the fabrics protection. Use a sponge or a clean white cloth but do not wash or rub the fabric. Leave to dry in normal conditions. These actions will not effect the FR treatment of the fabric. Heavy soiling will require professional cleaning.
All fabrics will fade to some degree if exposed to direct sunlight, particularly natural fibres such as cotton etc.
Try not to leave newspapers lying on your cushions; ink can stain the covers. It isn't always easy to avoid that from happening, however, proper ventilation can help.
Try to keep pets off the upholstery and be careful of sharp objects such as belt buckles, toys and watch straps snagging the fabric. If snags do occur, carefully cut off the loose ends with scissors or tuck back in - do not pull them under any circumstances.

Winterisation and Storage
Mattresses are made from fire retardant fabric and are C.M.H.R foam filled. It is recommended that mattresses be stored on edge during winter.
Try to keep your cushions away from direct sunlight.

Curtains
It is recommended that the curtains in your caravan are washed on a delicate cycle at 30°C. This will not damage the clip glides.
Shrinkage maybe caused should you decide to dry clean your curtains.

Curtains should not be left closed during daytime otherwise some fading will be experienced.

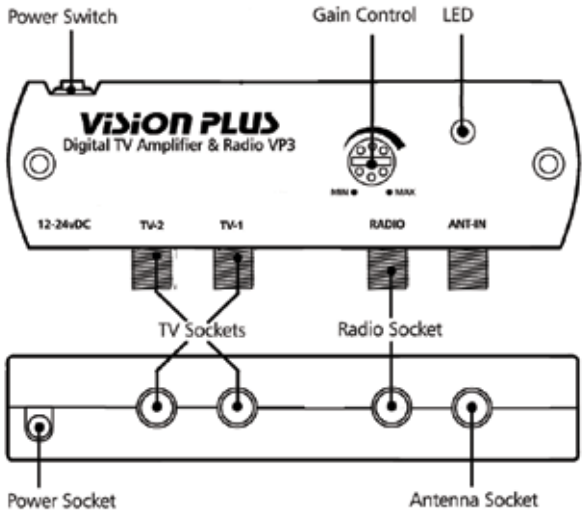
32. REMIS REMIBASE PLUS WINDOW BLINDS.

Please note the blinds should not be in the closed position when the vehicle is travelling or when in storage for extended periods.

The sunscreen is housed at the bottom and the flyscreen at the top of the blind. To open either hold the cross bar and pull up or down. Both blinds can be fully extended to totally cover the window or can meet at any position to give sun shading/privacy and protection from insects entering the vehicle.
The blinds are pre set to the correct tension.
If re tensioning is required please follow these steps:
The blind needs to be taken down from the wall by un screwing the 4 corner screws.
Lay the blind face down on a table with the cross bars of both blinds meeting in the middle.
The black cords re-tension the fly screen and the white cords re-tension the sun screen.
The cords are fixed at either side with a screw. Loosen this screw and gently pull the cord 5mm tighter and repeat on the other side ensuring the crossbar is level.
Test the tension. This process can be repeated if necessary.
The blinds over the kitchen sink and in the bathroom are of a different construction and can be re-tensioned while fixed to the wall. On the side of the cassettes are two plastic screw heads. Using a screw driver turn these gently clockwise until the correct tension is reached. Test the tension after each turn.

Cleaning:
The actual plastic profiles can be cleaned with a non abrasive cleaner and damp soft cloth. The blinds should only be dusted lightly with a soft cloth.
The blinds over the kitchen sink and in the bathroom have a special sun screen that can be cleaned with a non abrasive cleaner and damp cloth. The fly screens should only be dusted with a soft cloth.

33. STATUS 550 DIGITAL ANTENNA SYSTEM



Frequency Range:	UHF 470-860 MHz FM 88-108 MHz DAB 175-230 MHz
Antenna Forward Gain	7db
Amplifier Gain	16db
Gain Adjustment	15db
Noise Figure	2.8 db
Output Impedence	75 ohms
Output	95 dbuv
Power Supply	12-24 vDC
Power Consumption	55ma
Signal Outputs	2 TV 1 Radio

Travelling

Do not travel:

- With the Antenna Raise.
- With the Antenna set for vertical signals.
- When travelling adjust the antenna so that it points to the rear of the vehicle to reduce the possibility of damage when travelling.

Operating

Firstly determine the approximate location of the nearest transmitter and whether the signals are horizontally or vertically polarised. For assistance ask your site operator or check other antennas in the vicinity.

1. Loosen the Mast Locking Collar and raise the antenna. Rotate the mast to direct the Antenna towards the TV Transmitter.

The H/V Indicator on the bottom of the mast indicates the back of the Antenna.

2. Should you need to receive vertically polarised signals rotate the winder, anti-clockwise to cant the antenna through 90º.

DO NOT use undue force on the winder

3. Switch ON the Amplifier and the LED will

illuminate.

4. Check the gain control is set to maximum. For maximum rotate clockwise.
5. Tune your television into the strongest signal. You may need to adjust the direction of the mast to achieve the best picture quality.
6. Secure by tightening the Mast Locking Collar.

DAB and FM Radio Operation.
Status is designed to receive DAB and FM when connected to a radio with DAB /FM facility.
Dependant on location DAB and FM reception may be improved by setting the antenna to vertical.

Fault Finding
The following are some of the key areas we suggest you check which generally solve the most common problems encountered with the operation of the Status antenna.
Coaxial Connections
It is critical that all connections in the system are fitted correctly.

Gain Control
In normal use the button should be rotated clockwise for maximum. In strong signal areas the amplification may need to re reduced. To reduce amplification rotate the button anti-clockwise until picture quality improves. The button rotates through 270 degrees from MAX to MIN.

LED Light
Should the LED on the Amplifier not light, firstly check there is power to the unit. Secondly check the polarity is correct. Otherwise contact Grade UK Ltd for further assistance.

Short Hook Up – Test 1
This test isolates the wiring from the Amplifier through to your TV/Radio points.
Unplug the coaxial plugs from the 'TV' sockets of the Amplifier and using your TV fly lead with Converter 1 supplied. Connect your TV to the
Amplifier.
Please ensure the Antenna Dome is plugged directly into the 'ANT-IN' socket of the Amplifier and switch on. Tune is your TV for the strongest signal.
If the picture quality improves the fault lies with the wiring of teh system between the Amplifier and TV outlet socket.

Short Hook Up- Test 2
This test isolates the Amplifier by connecting your TV direct to the Antenna.
Unplug the Antenna from the Amplifier and connect Convertor 2 supplied to the plug on the cable end. Using your Fly lead connect the antenna directly to your TV. Tune in your TV for the strongest signal.
If the picture quality improves, the fault lies with the Vision Plus Amplifier.

Antenna Dome Co-axial Cable
Check the routing of the coaxial cable from the Antenna Dome to the Amplifier. Check to ensure there are no kinks or trapped cable or if there are loops of surplus cable which could affecting performance

Antenna Dome Co-axial Cable
Check the routing of the coaxial cable from the Antenna Dome to the Amplifier. Check to ensure there are no kinks or trapped cable or if there are loops of surplus cable which could affecting performance.

Should you still be experiencing difficulties and require assistance, please do not hesitate to contact Grade UK on +44 115 986 7151.

It is the responsibility of the caravan owner to make sure that teh directional aerial is fully retracted before the caravan is moved. Any damage as a result of neglect , i.e. not retracting the aerial, caused by crash damage, vandalism or incorrect operation will NOT be covered by the manufacturers warranty.

34. GENERAL CARE AND MAINTENANCE OF YOUR CARAVAN.

Exterior
The exterior of your caravan is very durable and easy to clean owing to it's high gloss properties. To maintain a showroom finish one needs only to wash the caravan wash the parts monthly (or more frequently) using mild dishwashing detergent, but avoid using strong alkaline (e.g. tri-sodium phosphate) or acidic cleaners or abrasives. Waxing the components once or twice a year with a good grade paste wax will help to maintain the colour and finish.

Cleaning / usage information:
- Wash the caravan by hand, using a sponge with plenty of Cara-Van cleaning solutions to avoid scratching.
- Use with Bailey Cara-Van cleaning solutions.

* Available through your supplying Bailey Retailer or available to order direct via our Parts Direct website www.bailey-parts.co.uk

- Always rinse away any soapy water from your caravan.
- Dry the vehicle with a chamois or a microfibre cloth

Do not
- Do not apply a carnauba-based wax to the vehicle
- Do not use a mechanical brush washing system such as a car wash.
- Never pressure wash your vehicle.
- Do not use solvents
- Do not use Acrylic cleaners

Under no circumstances use any abrasive agents, methylated spirit, white spirit or other solvents to the exterior of your caravan
No touch up painting should be carried out prior to consulting with a Bailey Service Centre for approved methods.

All items stored in the gas bottle storage locker must be secured to prevent impact damage to the inside of the body panel when the caravan is being towed.

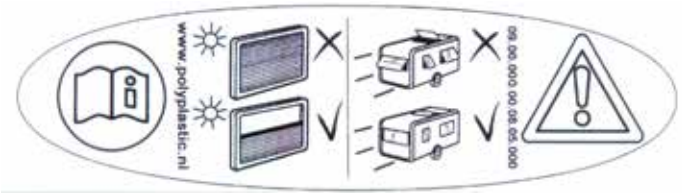
Do not allow any chemicals, toilet or otherwise, to spill or leak into the gas box floor. Before placing items in the cradle ensure that the tray is clean and free from any debris. Cleaning should only be carried out with warm soapy water.

The use of high pressure water jets to clean your caravan will invalidate your warranty.

Acrylic Windows
The windows fitted to your bailey caravan are manufactured from high quality acrylic using the latest plastic processing methods.

For cleaning, use only generous amounts of water to wash away dust and road grit etc. Then use a soft cloth and warm soapy water and gently remove the remaining dirt. Avoid abrasive cleaning materials and detergents.
As with all plastic materials, acrylic should not be allowed to come into contact with chemicals such as paint remover, fly spray, acetone, dish washer detergent and car cleaning detergent.

Never polish with a dry cloth
During high sun do not close the window blinds completely and open the windows into the ventilation position.
While the caravan is in motion please ensure that the windows are fully closed(this information is also detailed on stickers on the windows)



Dependant on the temperature inside the caravan to that outside, condensation maybe experienced between the window panes. This is a perfectly normal occurrence as the windows are not sealed units. To disperse condensation remove the bungs, using a pair of blunt end tweezers, in the corners of the window unit, preferably on a warm day) until the condensation disperses and then replace the bungs.

Window Catches and Stays
Turn catch arm to the vertical position to open. A night vent position is available by depressing the locking knob and locating the catch into the outer catch plate slot.
The windows are held open by and adjuster knob, tightening the knob in a clockwise direction will hold the window open in the desired position.

Always ensure the knob is unscrewed before closing the window. Failure to do so may cause damage to the window stay arm.

Always ensure that windows are fully closed during wet weather and not on night vent settings.

Furniture
Moisture in the air can cause damage to furniture as the wood expands or contracts with an increase or decrease in the relative humidity. A relative humidity of between 40% -60% is tolerable. If values are maintained outside this range for a sustained period damage to the furniture may occur.

To prevent damage, assure relative humidity of air is not too high for a

The damages can be visible if the relative humidity is higher than 80% for a long time. To prevent damage, ventilate the van, using dehumidifiers or water adsorbent substances.
When wood is wet, wipe it dry. Do not just wait for the sun to dry it. The longer the water stays on the surface, the more damage it can do.
Defects caused by swelling, bowing, twisting or delaminating generated by high temperature or high relative humidity of air) will not be accepted as warranty

Humidity
Air contains moisture – this is called humidity. The higher the temperature of the air the more water it is able to hold. Air at 20°C can hold a lot more moisture than air at 10°C. The term 'relative humidity' describes how much moisture air contains at a given temperature. 100% relative humidity means the air is holding as much moisture as it can at that temperature.
The more humid the air is in your caravan, the more energy it takes to warm your van because it is also warming the water in the air. This means it will be more expensive to heat!
A good range of indoor humidity for comfort and health is between 30-60% during cooler months of the year. Mould is likely to occur if the relative humidity indoors is 70% or more for long periods of time. Keeping humidity levels under 50% also helps to minimise or control dust mites.

About Condensation
When the humidity is high inside a van and it is cold outside the water vapour condenses on cold surfaces. What can causes dampness and condensation in your van?
- Lack of adequate ventilation and/or heating.
- Water coming in from the outside through leakage, seepage or open windows
- High levels of moisture/water vapour being produced inside the caravan

Humid air and condensation can also be generated by things people do on a daily basis.
- Cooking Up to 3 litres per day
- Showers and baths 1.5 litres per person
- Washing dishes Up to 1 litres per day
- Breathing, active adult 0.2 litres an hour per person
- Breathing, adult asleep 0.02 litres an hour per person

How to keep your caravan dry and avoid condensation
There are lots of things YOU can do to minimise dampness and condensation in your caravan.
The key actions:
- Provide ventilation and/or reduce relative humidity of air by , particularly in moisture-prone period of year (especially winter time) and when the moisture is produced in the van (cooking, shower)
- Reduce the amount of moisture produced in the van
- Increase heating to raise the temperature of the air and the cold surfaces

On dry days open some windows to allow humid air to ventilate out of the van. It is better to open a few windows a little throughout the whole caravan. This helps the air to move through the caravan. One window open wide may not be as effective. Try to do this as often as possible (at least once a week), but keep windows closed on wet days as damp air may increase indoor humidity.

High temperatures
High temperatures can also damage the surfaces of your worktops. Protect them with protective table pads or place-mats when utilizing extremely hot utensils or dishes.

Hinges and Catches
Lightly oil occasionally

Caravan Keys
Each Unicorn model is supplied with two identical keys. In the event of both keys being lost these cannot be replaced. In this instance a new lock will have to be fitted with a fresh set of keys. These two keys are also for use on the other exterior access doors.

36. WINTERISATION AND STORAGE

The following applies whenever your caravan is stored particularly during winter months.

- If you will not be using your vehicle for a while it is probably a good time to arrange for your caravan to have its annual service at your appointed dealer.
- As with all caravans it is a good idea to store the caravan with the nose down, this will avoid any water from pooling on the roof.
- Do not leave your vehicle near trees or latch type gates due to possible wind damage.
- Keep any grass around the floor or the caravan short to maintain airflow and stop any possible damp getting into it.
- It is advised that the caravan is ventilated regularly throughout the winterisation/ storage period, opening windows, doors an rooflights where possible.
- All moving parts should be checked for free operation.
- Clean all cooking appliances and the refrigerator before parking up the vehicle.
- Charge up the on board battery every 2 months
- Leave the refrigerator door open. Leave the furniture and locker doors open to allow air to circulate fully.
- Ensure that the entire water system is thoroughly drained.

37. MODIFICATIONS AND DIY WORK

Owners need to be aware that carrying out DIY modifications to your caravan may in certain circumstances, invalidate the warranty cover and could also affect the safety and structure of the vehicle.

- Make sure that all plumbing pipes, drains, and water supply appliances within the caravan are properly drained.
- Remove the battery from the caravan to keep it warmer. If the battery cells were to freeze this could cause damage to the cells and decrease the life of the battery.
- Try to cover as much as possible of the underside of the caravan to prevent snow from collecting and packing up underneath. This will help to prevent damage to the tyres due to weather conditions.
- Apply a lubricant to any of the locks to avoid them from freezing up. This will allow you access to your caravan if it is needed.

38. SPARES AND AFTERSALES.

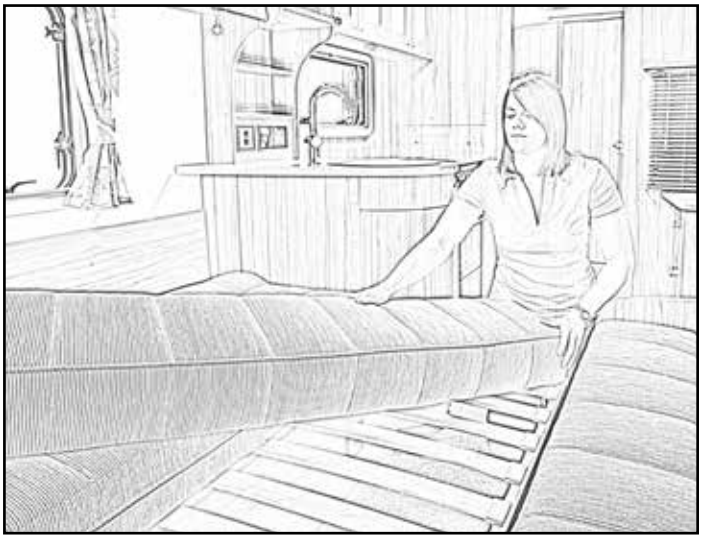
There are numerous parts and accessories available for your caravan either from your Bailey retailer or through the Bailey Parts website. You are more than welcome to contact the parts website for anything you may require. However if it is a safety or warranty critical item you will need to obtain it from your Bailey Retailer who will fit the component for you.

www.bailey-parts.co.uk

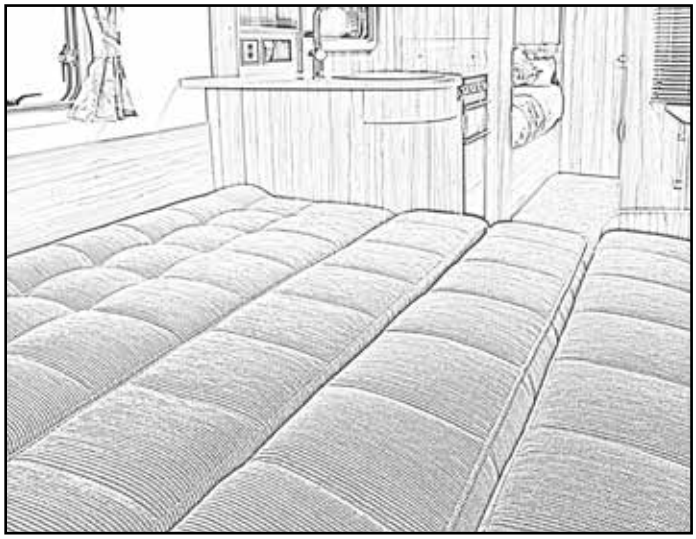
39.FRONT BUNK ASSEMBLY

Step 1: Pull slats from offside towards the bunks on the other side.

Step 2: There will be a slight gap between the two bunk faces.

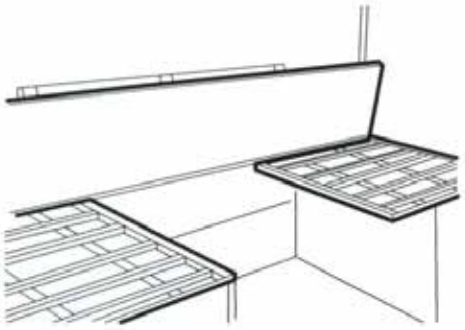


Step 3: turn the cushions over and move the back rests into the middle.

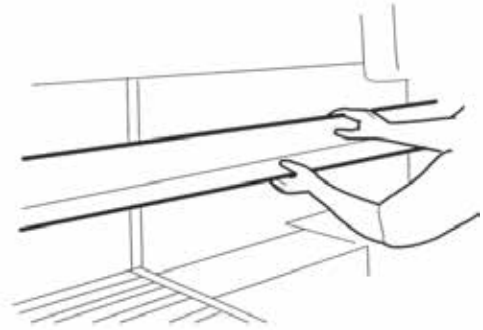


Step 4: Move the seat base cushions so that the knee roll is against the outside wall of the caravan.

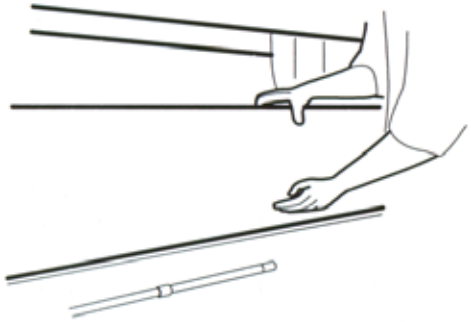
40. SIDE DINETTE TOP BUNK ASSEMBLY.



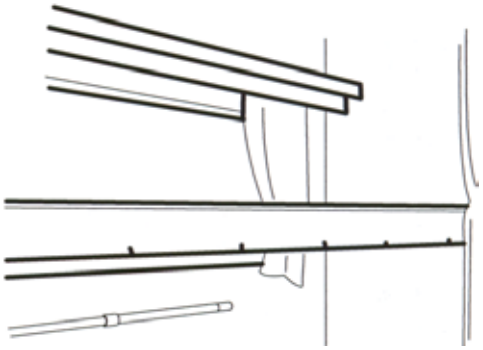
Step 1 Remove cushions and draw the curtains and close the blind if fitted.



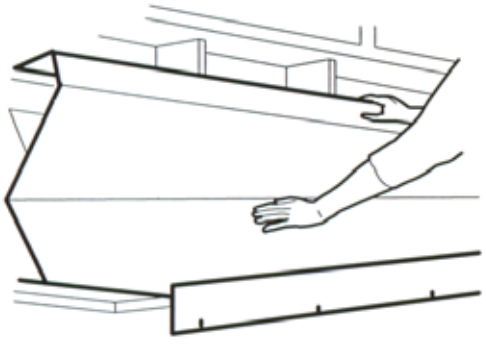
Step 2 Holding the bunk in both hands pull it inwards



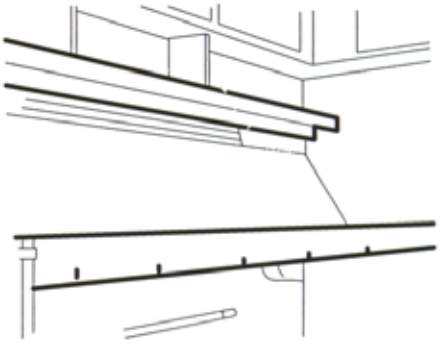
Step 3 Remove cushions and draw the curtains and close the blind if fitted.



Step 4 Holding the bunk in both hands pull it inwards



Step 5 Release the retaining straps on the underside of the bunk base. The second half of teh bunk base can now be unfolded towards the caravan wall.



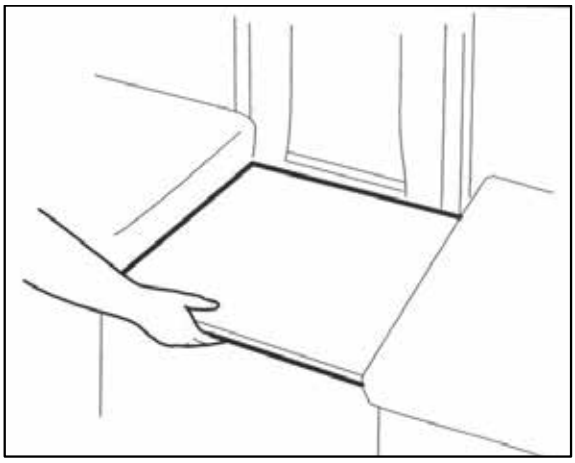
Step 6 Turn the turnbuckle catches located on the metal bunk legs to ensure that the bunk cannot befolded by pushing up from below.

Step 7 The safety rails and ladder can now be slotted into position.

Step 8 Check the security of the bunk and replace the cushions before allowing a person to use the bunk.

41. SIDE DINETTE BOTTOM BUNK ASSEMBLY.

i. Remove table from support leg.
ii. Place the table top between seats on ledge.
iii. Arrange seat cushions as appropriate.



⚠ When Children, especially those under 3 years of age, use any bunk/bed care must be taken against the risk of them falling out.

42. USEFUL TELEPHONE NUMBERS AND E MAIL ADDRESSES.

Bailey Help line	helpline@bailey-caravans.co.uk
Bailey spares department	parts@bailey-caravas.co.uk
Michelin Tyre PLC	+44 845 3661535
AL-KO	+44 1926 818500 mail@al-ko.co.uk
Fire Angel	+44 800 1412561 technicalsupport@fireangel.co.uk
Dometic	+44 844 6260130 technical@dometic.co.uk
Grade UK Customer Helpline	+44 115 986 7151

Clubs

The Caravan Club	+44 1342 326944 www.caravanclub.co.uk
The Camping and Caravanning Club	+44 845 1307631 www.campingandcaravanningclub.co.uk
The National Caravan Council	+44 1252 318251 www.nationalcaravan.co.uk